EMBARCADERO CENTER WEST

ENVIRONMENTAL IMPACT REPORT

DRAFT 83.222E

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PUBLIC HEARING DATE: JANUARY 31, 1985
PUBLIC COMMENT PERIOD: DECEMBER 28,1984 TO FEBRUARY 15, 1985

City and County of San Francisco
Department of City Planning

Written comments should be sent to the Environmental Review Officer,
450 McAllister Street, Fifth Floor, San Francisco, California 94102

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December 28, 1984

TO: Distribution List for the Embarcadero Center West EIR

FROM: Alec S. Bash, Environmental Review Officer

SUBJECT: Request for the Final Environmental Impact Report for Embarcadero Center West

This is the draft of the Environmental Impact Report (EIR) for Embarcadero Center West. A public hearing will be held on the adequacy and accuracy of this document on January 31, 1985. After the public hearing, our office will prepare and publish a document titled "Summary of Comments and Responses," which will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Those who testify at the hearing on the draft will automatically receive a copy of the Comments and Responses document along with notice of the date reserved for certification (usually about 9 weeks after the hearing on the draft); others may receive such copies and notice on request or by visiting our office. This Draft EIR, together with the Summary of Comments and Responses document, will be considered by the City Planning Commission in an advertised public meeting and certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final Environmental Impact Report. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one rather than two documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Summary of Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to individuals only if they request them.

If you want a copy of the Final EIR, please so indicate in the space provided on the next page and mail the request to the Office of Environmental Review within two weeks after certification of the Final EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR. Copies will also be available at the Department of City Planning, 450 McAllister Street - 5th floor, San Francisco, California 94102.

Thank you for your interest in this project.

REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT

To: Department of City Planning, Office of Environmental Review

Re: Embarcadero Center West Final EIR (83.222E)

(____) Please send me a copy of the Embarcadero Center West Final EIR.

Signed: ______________________________

Print Your Name and Address Below:

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(Name)

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If you are requesting an FEIR, please tear this page out, show your address above, fold the mailer so that your return address and the Department of City Planning's address is exposed, seal, add postage and mail.)

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ATTN: Ms. Carol Roos

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INTRODUCTION

The Downtown Plan and related amendments to the San Francisco Comprehensive Plan were approved by the City Planning Commission on November 29, 1984. At that time, the Commission adopted interim controls and approved permanent controls to implement the Downtown Plan. The permanent controls require approval by the Board of Supervisors and signature by the Mayor.

Section 175 2(a) 2(A) of the Planning Code as amended under the interim and permanent controls provides the following exceptions for:

> "integrated development projects involving the substantial rehabilitation and adaptive reuse of buildings designated as landmarks by the Board of Supervisors pursuant to Article 10 of this Code and for which a building permit application and an application for environmental review have been filed with the Department of City Planning prior to October 11, 1984. "Integrated development" means a project involving several buildings which are integrated with rehabilitation of a landmark designated pursuant to Article 10 of this Code and which are located on sites that, but for separations by a street or alley, are adjacent to such landmark"

This exemption includes the Embarcadero Center West Project (83.222E), although the Planning Commission must consider the project in relation to the Plan in its approval process.

This Draft Environmental Impact Report for the Embarcadero Center West project discusses the proposal in the context of pre-Downtown Plan controls. The DEIR also analyzes the project in relation to the Downtown Plan controls in the Impacts Chapter, by topic, and in the Alternatives Chapter, under Alternative Three: Downtown Plan.

I. SUMMARY

A. PROJECT DESCRIPTION

The project site is bounded by Battery, Halleck, Sansome, and Clay Streets and includes three parcels, presented from north to south: Parcel 1 - Assessor's Block (AB) 229, Lot 20; Parcel 2 - AB 229, Lot 3; and Parcel 3 - AB 238, Lots 1 and 7 (see Figure 1, page 14). The project would include closure of, and improvements on, Commercial Street between Sansome and Battery Streets. The 71,144-square-foot site is located in the Financial District in the C-3-0 (Downtown Office) district. The site is currently developed with a surface parking lot at the corner of Clay and Battery Streets and three structures (the Federal Reserve Bank building, City Landmark No. 158; 241 Battery; and 435 Sacramento). The proposed Embarcadero Center West project would include new construction on the surface parking lot, adaptive reuse of the vacant Federal Reserve Bank building and demolition of the vacant 241 Battery (Eastman Kodak) building at the southwest corner of Battery and Sacramento Streets. The top two floors within the four-story 435 Sacramento Street structure would be incorporated into the project; the three levels of parking (two levels above grade, one below grade) would remain and are not part of the project.[1]

The project would be a mixed-use office, hotel and retail development by the project sponsor, One, Two and Three Embarcadero Center West. This mixed-use development is intended as the western part of the Embarcadero Center. The project would total approximately 1,110,500 gross square feet (gsf) including approximately 611,000 gsf (589,000 net new gsf) of office space; 24,315 gsf of retail space; 35,185 gsf of restaurant space; 254,000 gsf of hotel space; 19,000 gsf of publicly accessible open space and 38,000 gsf of below-grade parking and loading facilities (42 valet parking spaces and ten loading docks). The site has a permitted Floor Area Ratio (FAR) of 14:1 under the September 1979 City Planning Code. Gross floor area for FAR calculation purposes totals 924,500 gsf. Thus, the FAR of the project would be 13:1 (under the 1979 Planning Code).

Parcel 1 (the northern portion of the site) would contain a 330-room hotel including about 254,000 gsf of hotel space (25,000 gsf of below-grade service and hotel administration space) and 2,500 gsf of retail space. The structure would rise 250 feet (24 stories). The hotel lobby, meeting room space, retail and open space would occupy the first three above-grade levels; the remaining levels would contain hotel rooms and a mechanical penthouse. The interior of the Federal Reserve Bank building on Parcel 2 would be rehabilitated for office, restaurant and retail uses. The bank building and a two-level portico/addition proposed on the east side would contain approximately 140,000 gsf of office space, 17,815 gsf of retail space, and 32,685 gsf of restaurant space. The structure would be retained at its existing height of 160 feet (9.5 stories). Parcel 3 (the southern portion of the site) would contain a new 400-foot (33-story) tower containing approximately 4,000 gsf of retail space and 2,500 gsf of restaurant space on the first two levels and 471,000 gsf of office space (including 22,000 gsf of existing office space at 435 Sacramento Street) on the remaining floors, with a mechanical penthouse above the office floors.

Subject to approval by the Department of Public Works (DPW), Master Plan referral by the City Planning Commission (CPC) and approval by the Board of Supervisors, Commercial Street would be closed to vehicular traffic between Sansome and Battery Streets and developed as a pedestrian mall. Commercial Street improvements would include the pedestrian mall with a walkway, stairs and a ramp leading to the other levels of retail and publicly accessible open space. Subject to the same approvals, pedestrian bridges would be constructed over Sacramento, Commercial and Battery Streets to link structures within the project and connect with the Embarcadero Center. Also subject to these approvals, below-grade parking and loading facilities would include construction of a loading and service area beneath the proposed Commercial Street pedestrian walkway, and a loading access tunnel to Parcel 3 under Sacramento Street. Parking spaces would be located on Parcel 1. Access to parking spaces and loading facilities would be from Clay Street. The project would require City Planning Commission approval of Conditional Use authorization pursuant to Section 175.2 of the City Planning Code (as amended November 29, 1984, the Downtown Plan Controls exemption provisions), Discretionary Review (incorporated in the Conditional Use process) and a Certificate of Appropriateness from the City Planning Commission for exterior alteration of a landmark structure.

B. ENVIRONMENTAL IMPACTS

1. Introduction

An Initial Study was prepared for the proposed project to identify potential significant impacts from the proposed project; these are covered in this EIR. Certain potential environmental impacts were determined to be insignificant, and are, therefore, not addressed in this EIR. They include: obtrusive light/glare, relocation of tenants/employees (some discussion is included for informational purposes only) , operational noise, project-related air quality impacts and impacts from odors/burning of materials, biology, geology/topography, surface water, hazards, utilities and public services and cultural resources, (see page A-1 for the Initial Study).

2. Land Use and Zoning

The proposed project would increase the intensity of use on the project site. Construction of the project would include adaptive reuse of the Federal Reserve Bank, demolition of the 241 Battery building and construction on a surface parking lot. The two-level hotel base structure on Parcel 1 would cover the entire 15,450-square-foot site; above the base, the hotel tower would cover 9,000 gsf (60%) of its site. The two-level base structure of the proposed office/retail building and existing 435 Sacramento Street building would cover the entire 22,750-square-foot Parcel 3; above the base, the office/retail tower would cover approximately 15,250 square feet (67%) of its site.

Both proposed high-rise buildings would conform to existing height and bulk limitations for the site. The project would conform to Downtown Plan regulations for building height, provision of open space, and sunlight access. The project would exceed Plan regulations for base FAR and wind impacts. The FAR for the proposed project as calculated under the Downtown Plan would be 12.5:1 (see page 17).

3. Architectural Resources

The proposed project would preserve and adaptively reuse the Federal Reserve Bank building and demolish the 241 Battery Street building. Both are rated "B" by the Foundation for San Francisco's Architectural Heritage and are included in the list of Architecturally and/or Historically Significant Buildings in the Downtown, adopted by City Planning Commission Resolution No. 8600. The Federal Reserve Bank building is a City Landmark and has been determined to be eligible for listing on the National Register of Historic Places (page 43).

4. Urban Design and Visual Quality

The proposed hotel and office tower would respond to some policies of the Urban Design Plan Element of the Master Plan. The towers would be similar in height to other high-rise structures in the Financial District; they would be taller than small-scale and mid-rise structures near the site. The project would be similar in design to the Embarcadero Center directly east of the site, across Battery Street; the design of the new buildings would contrast with the design of the Federal Reserve Bank building. The proposed buildings would obstruct views from the upper floors of adjacent buildings. The degree of view blockage would vary depending on observer position and elevation with respect to the location of the proposed structures. The 9.5-story Federal Reserve Bank building, a City Landmark, would be preserved and its interior rehabilitated for office and retail use. Its facades would be preserved. The project would require demolition of the four-story, 241 Battery Street building (page 81). Pedestrian bridges would link buildings within the project and connect to Embarcadero Center on the east. The bridges across Sacramento and Battery Streets would provide circulation for the project; they would also conflict with some policies in the Urban Design Plan.

5. Shadows and Wind

The project would cast shadow on portions of adjacent sidewalk areas to some degree at 10 a.m., 12 p.m. and 3 p.m. on March 21, June 21, and September 21. The project would also cast shadow on adjacent sidewalk areas to some degree at 10 a.m. and 12 p.m. on December 21. At 3 p.m. on March 21 and September 21, the project would cast new shadows on portions of the plaza at Embarcadero Center One and Maritime Plaza (of the Alcoa Building) near the corner of Clay and Battery Streets (page 106). The project would cast shadow on a portion of its own open space at 3 p.m. on June 21. The project would cause west winds to exceed 11 mph (a comfort criterion) along the south side of Halleck Street adjacent to the project site (page 117).

6. Transportation

The project would generate a net increase of about 23,997 net new daily person trips to and from the project site. Of these, a total of 2,804 outbound trips would occur during the peak two-hour period and 1,624 outbound trips during the peak hour (page 120).

Total annual transportation energy which would be consumed by the proposed project would be 214 trillion BTU, the equivalent of 38,000 barrels of oil (page 172).

The project is located in a C-3 district where off-street parking is not required by the Planning Code, and is discouraged according to the policies of the Transportation Element of the Master Plan. The project would include 42 valet parking spaces, 1 tour bus loading space, and 2 bike spaces as part of the new construction. Construction of the project would remove a 75-space surface parking lot, resulting in a net decrease of 42 parking spaces for the site (page 145).

The project would generate parking demand for about 344 long-term, 133 short-term and 43 hotel guest spaces. The project and cumulative downtown development would generally saturate available parking throughout the downtown area (page 145).

7. Air Quality

Temporary violations of the state 24-hour total suspended particulate (TSP) standard may occur as a result of project construction activities. Current and projected 1990 CO concentrations were calculated for the four intersections most affected by the project. The results indicate that both the state and federal eight-hour average CO standards would be violated under current (1984) conditions at Battery/Clay. No other violations of air quality standards are predicted to occur (page 153).

8. Construction Noise

The project's greatest effect on the area's noise environment would be during project construction. Peak noise levels would occur during pile driving on Parcels 1 and 3, and would be expected to reach about 105 dBA in all surrounding outdoor spaces (including adjacent sidewalks) within 50 feet; this effect would occur intermittently over a period of six months. Greatest interior peak noise levels would range from 83dBA with closed windows to 88 dBA with open windows during pile driving. During pile driving on Parcels 1 and 3, interior noise levels at the nearest residential units along Battery Street within the Golden Gateway Center would disturb residents' conversations and phone use. During all phases of construction, daytime sleeping in these units could be difficult. In surrounding offices, where noise levels would reach more than 60 dBA, activities of workers would be affected (page 160).

9. Energy

Total estimated annual energy use within the proposed project (based upon other projects in the City and compliance with Title 24 of the California State Administrative Code) would be 141 billion BTUs (British Thermal Units), or 25,200 barrels of oil (page 165).

10. Employment, and Housing, and Fiscal Factors

The project would require about 2,270 person-years of construction labor. About 3,510 additional person-years of employment would be generated in the Bay Area, as a result of the multiplier effect of project construction. After completion, the project would create a total of about 2,740 permanent full-time jobs, an increase of about 2,680 for the site. About 9,680 additional jobs in the Bay Area would result from the employment multiplier effect of project operation. According to the City's Office Housing Production Program guidelines, withoug subtracting for formerly occupied office space (now vacant) to be demolished or rehabilitated, the project would generate a net demand of 524 housing units in San Francisco. After subtracting the 193,000 gsf of formerly occupied office space from the project, the housing demand generated by the project would be 352 units, according to the OHPP guidelines.

The project, after expected occupancy in 1987, would generate about $5.0 million annually in total property, payroll, sales, gross receipts, parking and utility tax revenues to the City's General Fund, a net increase of approximately $4.5 million for the site. In addition, the project sponsor would pay a one-time Transit Impact Fee of $1,980,000 (page 183).

11. Growth Inducement

The project would add about 589,000 net new gross sq. ft. of office (after subtraction of existing office space to be retained on-site at 435 Sacramento Street), 24,315 gsf of retail space, and 35,185 gsf of restaurant space to the Financial District. The project would represent an addition of about three percent of projected office space growth in downtown San Francisco. Employment at the site would increase by about 2,680, from about 60 to about 2,740. Occupants are not currently known, but would probably include tenants expanding or relocating from other San Francisco locations, tenants relocating from outside San Francisco, and firms new to the Bay Area. Therefore, the increase in employment at the project site would not necessarily represent only employment that is new to San Francisco.

The project would respond to a demand for office space in San Francisco's Financial District. The demand itself is independent of the project. Demand for office space continues the trend of growth in service sector and headquarters office activities and employment in San Francisco. Increases in downtown office space and employment would contribute, in turn, to continued growth of local and regional markets for goods, services, and housing. These growth-inducing effects would be less extensive if the vacancy rate for office space rises. Should this occur, projected increases in downtown employment would be less and the growth in demand for goods, services and housing would be lower (page 188).

C. MITIGATION MEASURES

PRIMARY MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- Within a year of full project occupancy, the sponsor would conduct a survey to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for carpools and vanpools. This information would be made available to the Department of City Planning (page 191).

- The Environmental Review Officer in consultation with the Secretary to the Landmarks Preservation Advisory Board and an archaeologist shall determine whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of cultural of historic artifacts, and the procedures to be followed if such artifacts are uncovered (page 194).

- The construction contract would specify that the contractor muffle equipment so that noise levels would not exceed the limits of the San Francisco Noise Ordinance (page 195).

- According to OHPP guidelines, the project would generate a net demand for 524 dwelling units. There is 193,000 gsf of formerly occupied office space on the project site that would be redeveloped (including rehabilitation of existing vacant space and demolition and replacement with office, retail and related uses). Subtracting this floor area yields a floor area of 396,000 gsf. This amount would result in an OHPP requirement of 352 units. The project sponsor has entered into an agreement to loan funds for the purpose of developing 101 units of Section 8 (Federally assisted) elderly housing and a senior center. Upon initial endorsement by the Federal Department of Housing and Urban Development, the sponsor will receive 202 OHPP housing credits. The sponsor would satisfy the balance of the OHPP requirement (150 housing units) in accordance with OHPP guidelines. Housing credits are not the equivalent of housing units. The Planning Commission would decide whether the above program of credits and units would mitigate the housing demand generated by the project (page 196).

MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED PROJECT

- Various energy-saving devices (e.g., individual utility metering) are under consideration by the project sponsor. Final decisions would be made on the basis of life cycle costing and compatibility with overall design (page 196).
- The project sponsor could cause an additional 172 housing units to be constructed (the difference between the OHPP requirement and the housing demand prior to subtraction of existing formerly occupied office space). The project sponsor has rejected this measure because it would be in excess of the housing obligation for the project established under OHPP guidelines (page 196).

D. ALTERNATIVES

1. No Project

This alternative would involve no change to the project site as it now exists. No environmental impacts associated with the proposed project would occur. The project sponsor has rejected this alternative because it would not provide for maximum investment potential of the site (page 202).

2. No Exceptions to the Planning Code

This alternative would not incorporate pedestrian bridges over Battery, Sacramento or Battery Streets; the portion of Commercial Street within the project site boundaries would remain in vehicular use and construction would not occur under Commercial or Battery Streets. Loading facilities would be located at grade for each parcel's structure; parking would be provided below grade, but not under sidewalks or streets, for Parcels 1 and 3. Parcel 1 would contain a 340-foot hotel highrise. Parcel 3 would contain a 448-foot office highrise. This alternative would provide a total of 1,037,000 gsf: 645,000 gsf (623,000 net new gsf) of office space, 347,000 gsf of hotel space, 45,000 gsf of retail space, 10 loading docks and 42 parking spaces. The FAR for this alternative would be 14.6:1, with additional floor area above the base FAR of 14:1 (1979 Planning Code) generated by a transfer of development rights.

The greater net new office space (6%) and hotel space (37%), and 26% less retail space compared with the project, would generate about 8% more daily person trips and about 10% more peak-hour trips than the proposed project. Individual at-grade loading facilities would increase vehicular access. The 90-foot greater height on Parcel 1 and 48-foot greater height on Parcel 3 would increase this alternative's visibility and affect shadow impacts proportionally. According to the City Planning Commission's Office Housing Production Program (OHPP) formula, the housing demand generated by this alternative would be 554 units compared with 524 for the project. Subtracting formerly occupied office space from the formula, this alternative would generate a demand for 382 units. Other environmental impacts would be expected to be slightly greater than, or similar to, the proposed project.

The sponsor has rejected this alternative in the belief that it would not provide for an integrated, below-grade parking and loading facility and would result in inefficient vehicular circulation, as well as a design that would be less architecturally pleasing than the project. In addition, the lack of pedestrian bridges could reduce the marketing potential of the second and third floor retail space, in the sponsor's view (page 203).

3. Downtown Plan

This alternative would contain the maximum base floor area allowed under the density provisions of the Downtown Plan, Proposal for Citizen Review, Department of City Planning, August 1983, revised November 1983, and amended June, October, and November 1984. This alternative would include about: 667,000 gsf (645,000 net new gsf) of office space, and 73,650 gsf of retail space, of which 29,200 gsf would be excluded from FAR calculation under the Downtown Plan. This alternative would contain 57,000 gsf (9%) more office and 13,150 gsf (22%) more retail space than the project and would not contain any hotel space. As with the proposed project, 10 loading docks and 42 parking spaces would be provided below grade from a single Clay Street entrance/exit. Parcel 1 would contain a 238-foot office building, about 12 feet shorter than the project. Parcel 2 would be identical to the proposed project; Parcel 3 would contain a 310-foot office highrise, 90 feet less in height than the office proposed with the project.

The gross floor area calculated under the proposed Downtown Plan would be about 711,450 gsf, about 213,000 gsf less than the proposed project total of 924,500 gsf. The Downtown Plan would exclude retail and other specified uses on the ground floor in a C-3-0 district from calculations of allowable gross floor area. Thus calculated, FAR for the alternative would be 10:1. Thus calculated, the project FAR would be 12.5:1. This alternative would provide 19,000 gsf of usable open space, the same as for the project, in excess of the Plan requirement of 14,813 square feet for this alternative (1 square foot for every 50 square feet of building area).

This alternative's greater office space and retail space, and lack of restaurant and hotel space, compared with the project, would slightly reduce traffic-related impacts of this alternative, compared to the project. Visibility from distant and close viewpoints and shadow impacts would be proportionally less than the proposed project due to the lesser bulk of structures on Parcels 1 and 3. Compared with the project, wind impacts of the alternative would not exceed Downtown Plan wind standards of 7 mph for sitting areas and 11 mph for pedestrian areas. (The project would increase winds above 11 mph on Halleck Street.) Housing demand generated by this alternative as calculated by the OHPP guidelines would be 573 units, compared to 524 units for the proposed project. After subtracting formerly occupied office space from the OHPP formula, housing demand generated by this alternative would be 402 units, compared to 352 units for the project. Other environmental impacts would be expected to be similar to, or less than, the project.

The sponsor has rejected this alternative because it would preclude development of a hotel on Parcel 1, which, in the opinion of the sponsor, would be a more desirable use of that part of the site than offices. In addition, housing demand generated by this alternative would be greater than the project (page 208).

4. No Parking

This alternative would not include parking; in all other respects, it would be the same as the proposed project. Although difficult to quantify, transit demand impacts would be expected to increase and the project's contribution to cumulative air quality impacts in the vicinity would be reduced. Geologic impacts would be expected to be less than for the project because there would be no excavation for garage space. Other environmental impacts would be the same as for the project.

The sponsor has rejected this alternative because it would not provide the amount of accessory parking allowable under the Planning Code; this, in the sponsor's opinion, would affect the marketability of project space (page 213).

5. Full Use of 435 Sacramento Street

This alternative would involve the same development on Parcels 1 and 2, and different design of the lower floors and below-grade levels of the buildings on Parcels 2 and 3, compared to the project. There would be no pedestrian bridge across Sacramento Street.

The project sponsor would retain the entire building at 435 Sacramento street, and demolish existing parking space at 435 Sacrmento Street (33,000 gsf), to be replaced by three levels of below-grade parking (48,000 gsf) on Parcel 3 (with the project, the sponsor owns rights to the building except for the parking).

This alternative would contain approximately 924,500 gsf (the same as project), including 611,000 gsf of office space (the same as the project), 24,315 gsf of retail space (the same as the project), about 35,185 gsf of restaurant space (the same as the project), and 254,000 gsf of hotel space (the same as the project). Open space would be about 19,000 gsf, the same as the project. Calculated FAR for this alternative would be 13:1, the same as the project. Excluding ground floor uses pursuant to Downtown Plan guidelines results in a calculated FAR of 12.5:1, the same as the the project.

Visual impacts would be less than with the project, in that this alternative would not include a pedestrian bridge across Sacramento Street. The floor area total of this alternative would be the same as the project. This alternative would have slightly increased traffic-related impacts, as more pedestrian traffic would move at-grade rather than on the pedestrian bridges. The housing demand generated by this alternative as calculated under the OHPP guidelines would be 524 units, the same as the project. Subtracting formerly occupied office from the formula, this alternative would generate a demand for 352 units, the same as the project. Other environmental impacts would be expected to be the same as the project.

This alternative was rejected by the project sponsors because of the lack of a pedestrian bridge across Sacramento Street that would link the office tower on Parcel 3 to Parcels 1 and 2. Also, in the sponsors' opinion, the lack of a bridge would reduce this alternative's marketing potential in comparision to that of the project. In addition, at present, the project sponsor lacks the necessary property rights in the three parking levels at 435 Sacramento Street to build this alternative (page 214).

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[1] All property rights to the 435 Sacramento site are under option to the project sponsor, excluding the three levels of parking.

II. PROJECT DESCRIPTION

A. OBJECTIVES OF PROJECT SPONSOR

The project sponsor includes three partnerships, known as One, Two and Three Embarcadero Center West. These sponsors propose a major mixed-use office, hotel and retail development that, in their view, would:

- preserve the Federal Reserve Bank building, a San Francisco landmark eligible for listing on the National Register of Historic Places;
- link the Federal Reserve Bank building with two new structures to the north and south by pedestrian bridges;
- change Commercial Street, between Battery and Sansome Street, into a landscaped pedestrian mall, subject to the required City approvals;
- provide an integrated complex of retail uses that would complement and enhance retail uses in the existing Embarcadero Center and other commercial establishments in the project vicinity;
- link the proposed project to the existing Embarcadero Center retail, office and hotel complex by a pedestrian bridge over Battery Street;
- provide a major hotel that would accommodate business clients in the Financial District, promote activity during the evenings and weekends when the area is traditionally underutilized and boost retail and restaurant establishments in the surrounding area by introducing a new element that would promote tourist activity; and
- provide first-class office space in the Financial District.

The project architect is John Portman and Associates with offices in San Francisco and Atlanta. Kaplan, McLaughlin and Diaz are co-architects for the rehabilitation of the Federal Reserve Bank building.

B. LOCATION OF THE PROJECT SITE

The proposed Embarcadero Center West development would be located in the City's central business district (see Figure 1, page 14). The project site is bounded by Battery, Halleck, Sansome and Clay Streets and includes three parcels: on the north, Parcel 1 - Assessor's Block (AB) 229, Lot 20; Parcel 2 - AB 229, Lot 3, containing the Federal Reserve Bank buildiing; and, on the south, Parcel 3 - AB 238, Lots 1 and 7. The project sponsors intend to seek authorization to close Commercial Street between Sansome and Battery Streets to vehicular traffic, for use as pedestrian access; construct pedestrian bridges over Battery, Sacramento and Commercial Streets to link the project parcels and to connect the project to the Embarcadero Center; construct a 42-space parking facility for valet parking below-grade on Parcel 1; and construct loading and service areas under Commercial Street and loading access under Sacramento Street. The project is intended as the western part of the Embarcadero Center development. Total size of the site, not including Commercial Street, is approximately 71,100 square feet.

The site is in the C-3-O (Downtown Office) district. The basic FAR applicable to the C-3-O district is 14:1; that is, a gross floor area of up to 14 times the area of the lot could be built. The applicable height and bulk district for Parcels 1 and 2 is 400-I, which allows a building height of up to 400 feet. The applicable height and bulk district for Parcel 3 is 450-I, which allows a building height of up to 450 feet. The maximum dimensions allowed in an "I" bulk district are full site coverage up to 150 feet in height. Between 150 feet and the 400 or 450 height limit, the maximum building length is 170 feet and the maximum diagonal dimension is 200 feet. (Please see the Impacts and Alternative Chapters which begin on pages 67 and 163, respectively, for discussion of Downtown Plan regulations for the site.)

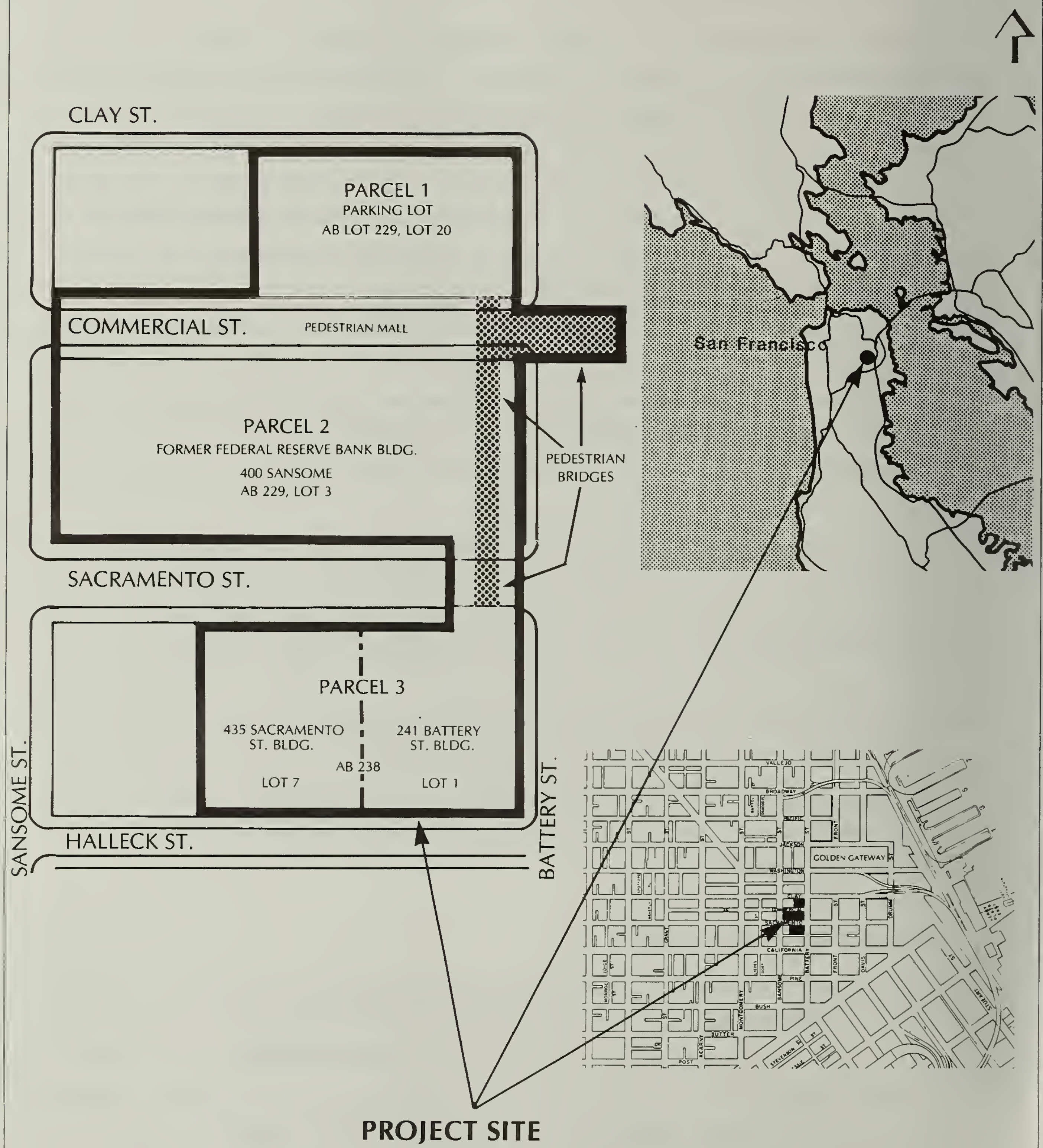
C. PROJECT CHARACTERISTICS

Currently, Parcel 1 contains a 75-space surface valet parking lot (50 spaces if self-park), and Parcel 2 contains the vacant Federal Reserve Bank building (400 Sansome Street). Parcel 3 contains two buildings: a vacant office/warehouse (241 Battery) and a mixed-use building (435 Sacramento) with two levels of office space and three levels (150 spaces) of parking, one level of which is below grade. The proposed Embarcadero Center West would include removal of the surface parking lot, adaptive reuse of the Federal Reserve Bank building and demolition of the 241 Battery Street (Eastman Kodak) building and new construction on Parcels 1 and 3. The top two floors of office space within the 435

SITE LOCATION

FIGURE 1

SOURCE: EIP CORPORATION



Sacramento structure would be incorporated into the project; the three levels of parking would remain and are not part of the project.[1]

The project would include approximately 1,110,500 total gross square feet (gsf) as follows: about 611,000 gsf of office space, 254,000 gsf of hotel space, 24,315 gsf of retail space, 35,185 gsf of restaurant space, 19,000 gsf of publicly accessible open space (including 11,000 gsf of Commercial Street improvements),[2] 20,000 gsf of below-grade parking and 18,000 gsf of loading facilities (42 valet parking spaces and ten loading docks; see Figure 8, page 24), 77,000 gsf of mechanical/service area, about 8,500 gsf of pedestrian bridges, and 43,500 gsf of other space within the Federal Reserve Bank (i.e. basement/vault and attic space). Parking would be provided beneath Parcel 1 and loading facilities would be located beneath Parcels 1 and 2; these facilities would serve all three parcels. (150 parking spaces would remain in the 435 Sacramento building and are not included in the project.) Subtracting existing parking on Parcel 1 (15,450 gsf, 75 spaces) and existing office space that would remain in the 435 Sacramento Street building, the project would provide approximately 589,000 gsf of net new office space and 33 fewer parking spaces. The project would have a FAR of 13:1. Project characteristics for the proposed Embarcadero Center West are shown in Table 1, page 16. Elevations sections and floor plans for the proposed project are shown in Figures 2 through 9, pages 19 through 26.

Parcel 1 would contain a 330-room hotel totalling approximately 333,000 gsf including 254,000 gsf of hotel space (including 25,000 gsf below-grade service and hotel administration space), 2,500 gsf of retail space, 20,000 gsf of parking and 12,000 gsf of loading space (5 loading docks). The building would rise 250 feet (24 stories) above grade and would have three below-grade levels. Service/loading would be provided on the first (highest) subsurface level; the project's 42 valet parking spaces would be on the second subsurface level; and mechanical/service space would be on the third subsurface level. The hotel lobby, meeting rooms, retail space and publicly accessible open space would be provided on the first three levels; the remaining levels would contain hotel rooms and a mechanical penthouse.

(Text continues on page 27)

TABLE 1
PROJECT CHARACTERISTICS
(All figures in gross square feet)

PROPOSED NEW CONSTRUCTION:[1]	Office	Restaurant	Retail	Hotel		Total
Parcel 1	---	---	2,500	254,000		256,500
Parcel 2	---	5,000	---	---		5,000
Parcel 3	449,000	2,500	4,000	---		455,500
Total	449,000	7,500	6,500	254,000		717,000
EXISTING SPACE[1]						
Parcel 1	---	---	---	---		---
Parcel 2	188,000	---	---	---		188,000
Parcel 3	27,000	---	---	---	51,350[2]	78,350
Total	215,000	---	---	---	51,350	266,350
PROPOSED USE OF EXISTING SPACE						
Parcel 1	---	---	---	---		---
Parcel 2						
Redeveloped (vacant)	140,000	---	---	---		140,000
Redeveloped (other uses)	---	---	---	---	2,500[3]	2,500[3]
Redeveloped (from office)	---	27,685	17,815	---		45,500
Parcel 3						
Retained	22,000	---	---	---		22,000
Demolished (other uses)	---	---	---	---	56,350[4]	56,350[4]
	162,000	27,685	17,815	---	58,850	266,350
SUMMARY						
Proposed New Construction	449,000	7,500	6,500	254,000		717,000
Space Retained	22,000	---	---	---		22,000
Redeveloped Space (vacant)	140,000	---	---	---		140,000
Redeveloped Space (from office)	---	27,685	17,815	---		45,500
Total	611,000	35,185	24,315	254,000		924,500
Space Retained	22,000	---	---	---		22,000
Net New Development	589,000	35,185	24,315	254,000		902,500

TABLE 1 (continued)

	Permitted (1979 Code)	Proposed	Down-Town Plan
PROPOSED PROJECT DIMENSIONS:			
FAR[5]	14:1	13:1/12.5:1[6]	10:1
PARCEL 1 (Hotel)			
Height	400'	250'[7]	250'
Maximum Length[8]	170'	145'	160'
Maximum Diagonal[8]	200'	166'	200'
PARCEL 2 (Fed. Reserve Bank)			
Height	400'	160'	75'
Maximum Length[8]	170'	209'[9]	N/A
Maximum Diagonal[8]	200'	239'[9]	N/A
PARCEL 3 (Office Building)			
Height	450'	400'[7]	400'
Maxium Length[8]	170'	135'	160'
Maximum Diagonal[8]	200'	176'	200'

	Office	Restaurant	Retail	Hotel	Other	Total
EXISTING EMPLOYMENT[10]						
Existing Total	62	---	---	---	1	63
Employees Retained	62	---	---	---	---	62
PROPOSED CONSTRUCTION[11]						
New Employees	2,142	101	69	280	90	2,682
NET NEW EMPLOYMENT	2,204	101	69	280	89	2,743

TABLE 1 Footnotes

[1] Does not include areas exempt from FAR calculations, such as mechanical areas and building storage, parking and loading.

[2] Vacant warehouse space at 241 Battery Street.

TABLE 1 (continued)

[3] Vacant space (formerly office) to be redeveloped as storage and maintenance space.

[4] Formerly vacant office (5,000 gsf) and warehouse (51,350 gsf) space.

[5] Based on site area, excluding Commercial Street, of 71,144 square feet.

[6] The Downtown Plan (DTP), as amended, restricts ground floor uses in the C-3-0 district to: retail and personal service uses; building circulation; open space features; pedestrian circulation; cultural, religious, social service, recreational and educational facilities available to the general public; and building service. All of these uses would be excluded from DTP calculations of allowable gross floor area, up to 75% of the ground floor area and ground level open space.

[7] Does not include 16-foot mechanical penthouse, which would be exempt from height limit.

[8] Applicable above a height of 150 feet. Under the Downtown Plan, these measurements would be applicable above a height of 160 feet.

[9] The Federal Reserve Bank exceeds current bulk requirements. Pursuant to Section 188 of the Planning Code, enlargements, alterations and reconstruction of a noncomplying structure would be permitted provided there is no increase in any discrepancy between existing conditions and the Code's required standard for new construction.

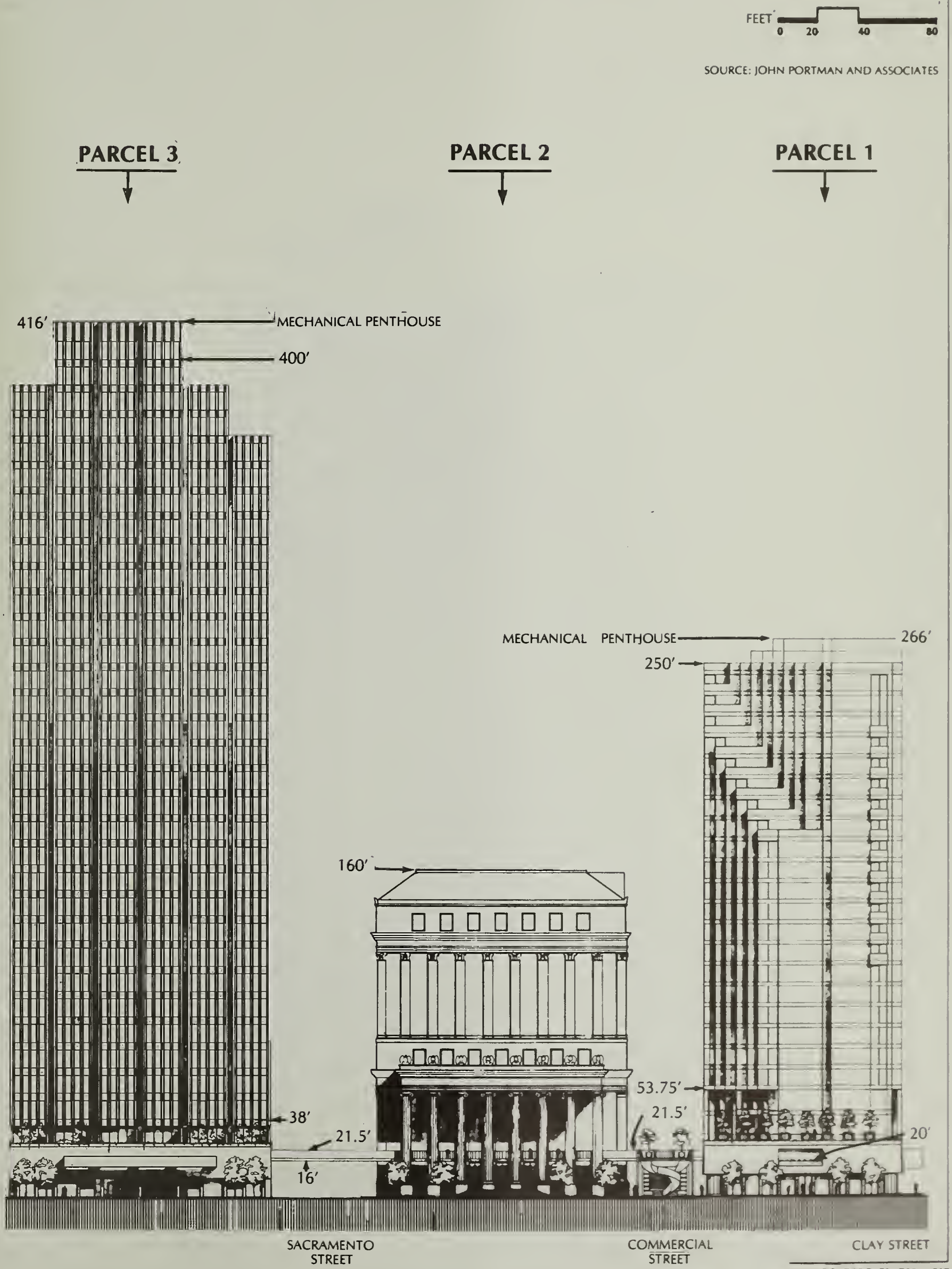
[10] Existing employment estimate based on letter from project sponsor, dated June 21, 1984.

[11] Based on one employee per 275 square feet of office space; one per 908 gsf of hotel space; one per 350 gsf of retail; one janitorial worker per 12,000 gsf of total floor area; and one parking operator per 5,100 gsf of parking spaces. Source for office employment density: Department of City Planning, Guidelines for Environmental Review: Transportation Impacts, September 1983, page 14, source for parking and retail employment densities: Department of City Planning, Downtown Plan EIR, EE81.3, certified October 18, 1984, page IV.C.6. Source for hotel and maintenance employment densities: San Francisco Department of City Planning, Growth Management Alternatives for Downtown San Francisco - Downtown EIR Consultant's Report, May 1983, Table IV-C.1.

Source: Environmental Impact Planning Corp; Embarcadero Center, Ltd.; John Portman and Associates.

BATTERY STREET ELEVATION

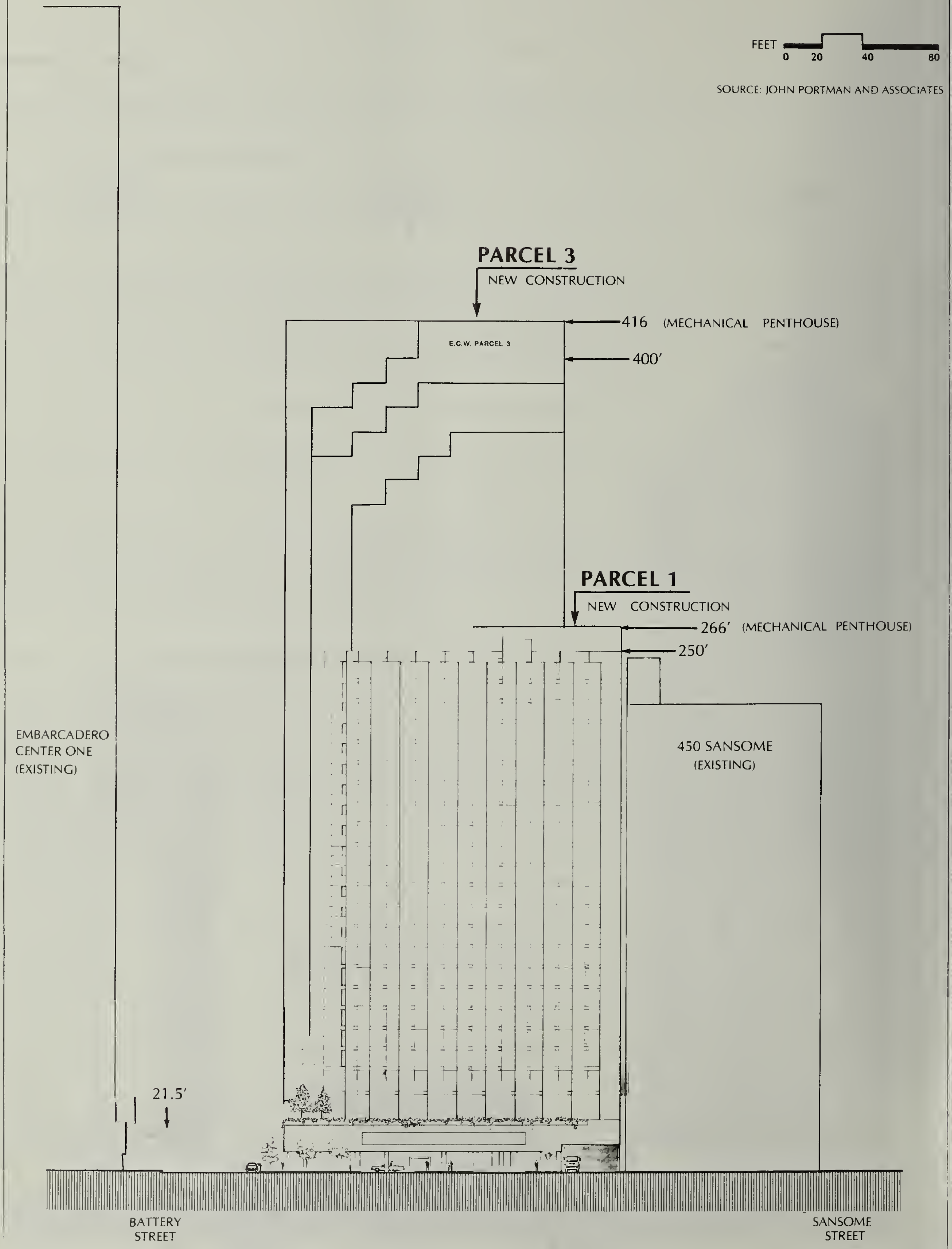
FIGURE 2



EMBARCADERO CENTER WEST

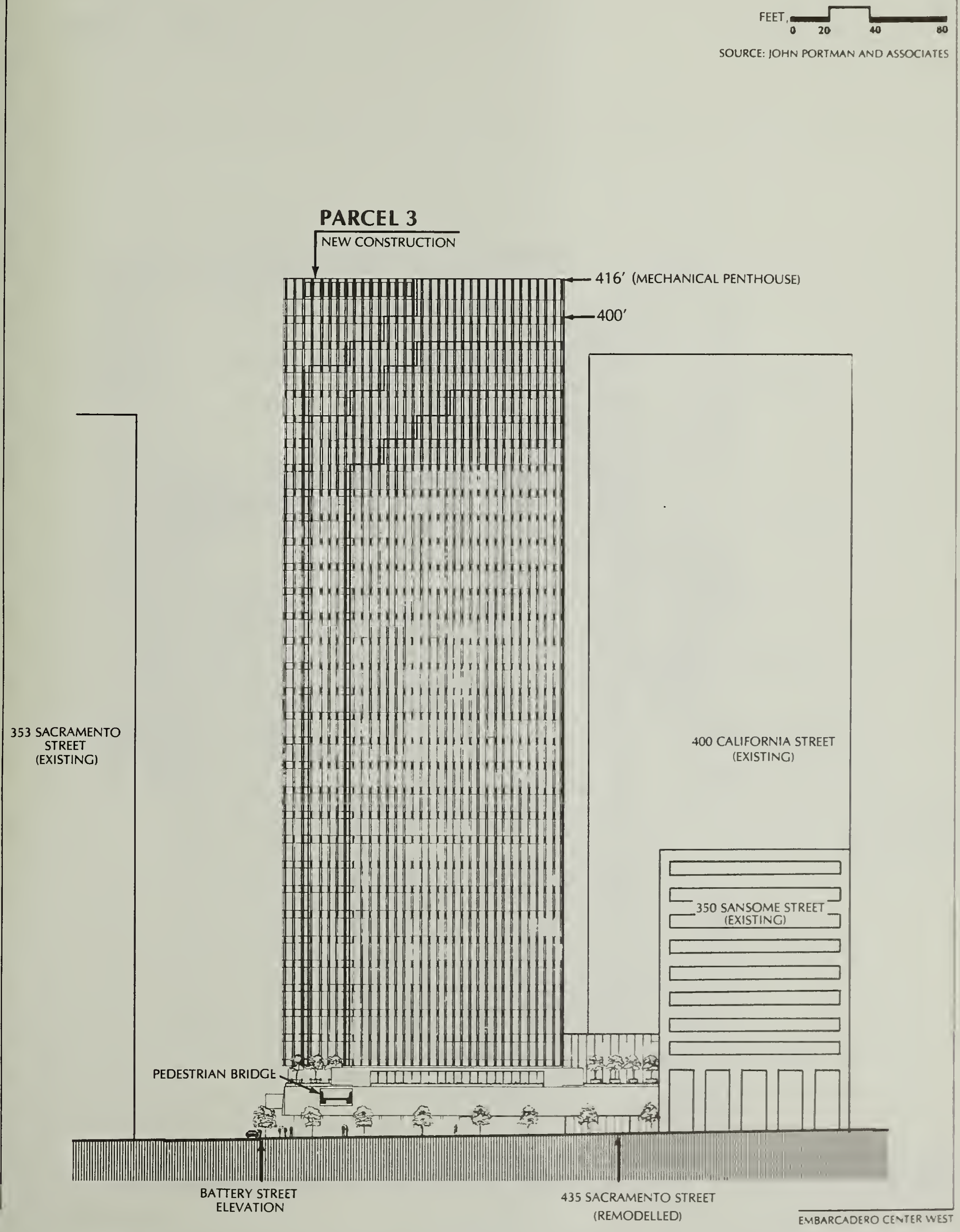
CLAY STREET ELEVATION

FIGURE 3



SACRAMENTO STREET ELEVATION-OFFICE TOWER

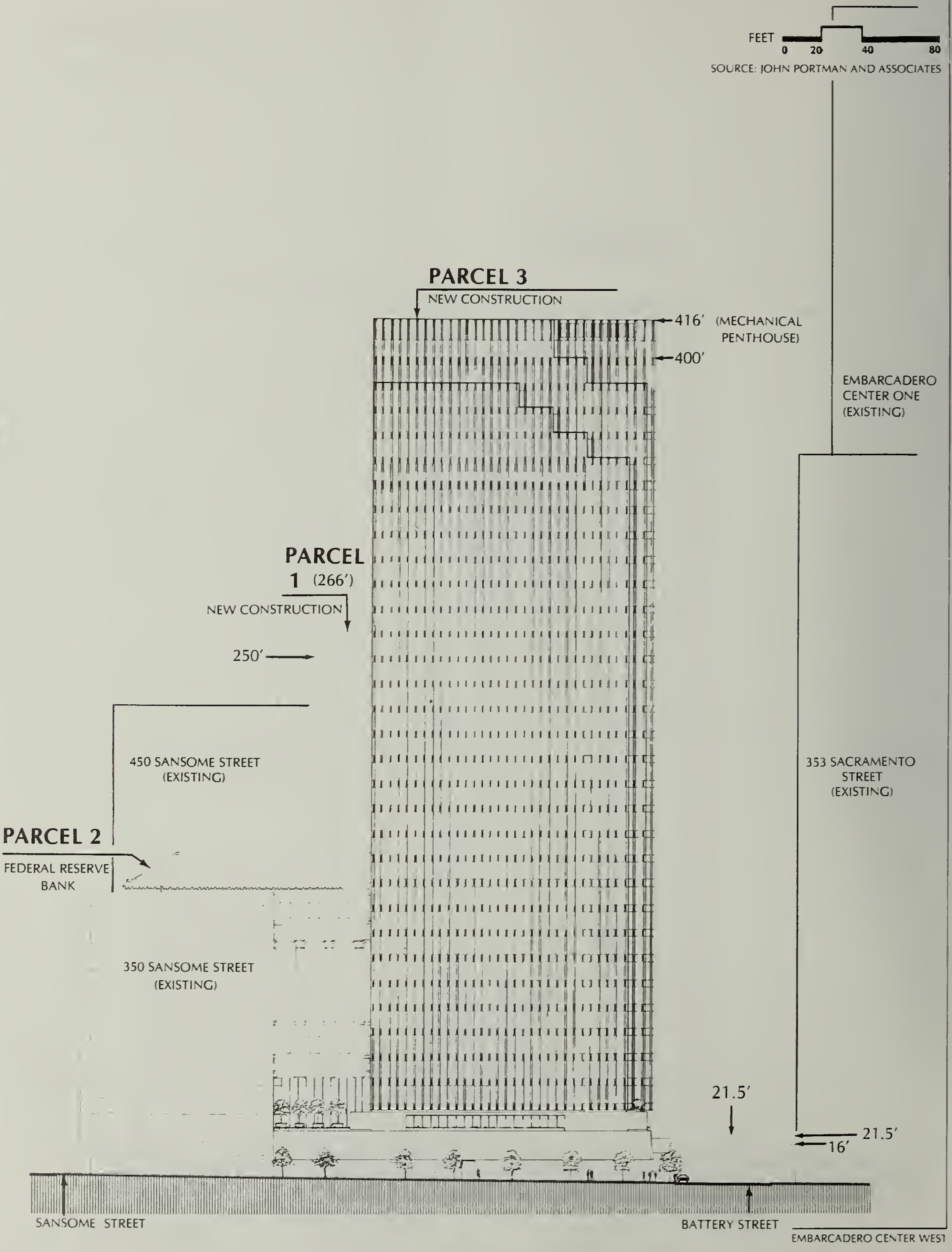
FIGURE 4


FEET
0
20
40
80
PARCEL 3
NEW CONSTRUCTION
416′ (MECHANICAL PENTHOUSE)
400′
353 SACRAMENTO STREET (EXISTING)
400 CALIFORNIA STREET (EXISTING)
350 SANSOME STREET (EXISTING)
PEDESTRIAN BRIDGE
BATTERY STREET ELEVATION
435 SACRAMENTO STREET (REMODELLED)
EMBARCADERO CENTER WEST

SOURCE: JOHN PORTMAN AND ASSOCIATES

HALLECK STREET ELEVATION

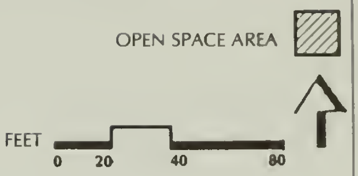
FIGURE 5


FEET
0
20
40
80
SOURCE: JOHN PORTMAN AND ASSOCIATES
PARCEL 3
NEW CONSTRUCTION
416′ (MECHANICAL PENTHOUSE)
400′
EMBARCADERO CENTER ONE (EXISTING)
PARCEL 1 (266′)
NEW CONSTRUCTION
250′
450 SANSOME STREET (EXISTING)
353 SACRAMENTO STREET (EXISTING)
PARCEL 2
FEDERAL RESERVE BANK
350 SANSOME STREET (EXISTING)
21.5′
21.5′
16′
SANSOME STREET
BATTERY STREET
EMBARCADERO CENTER WEST

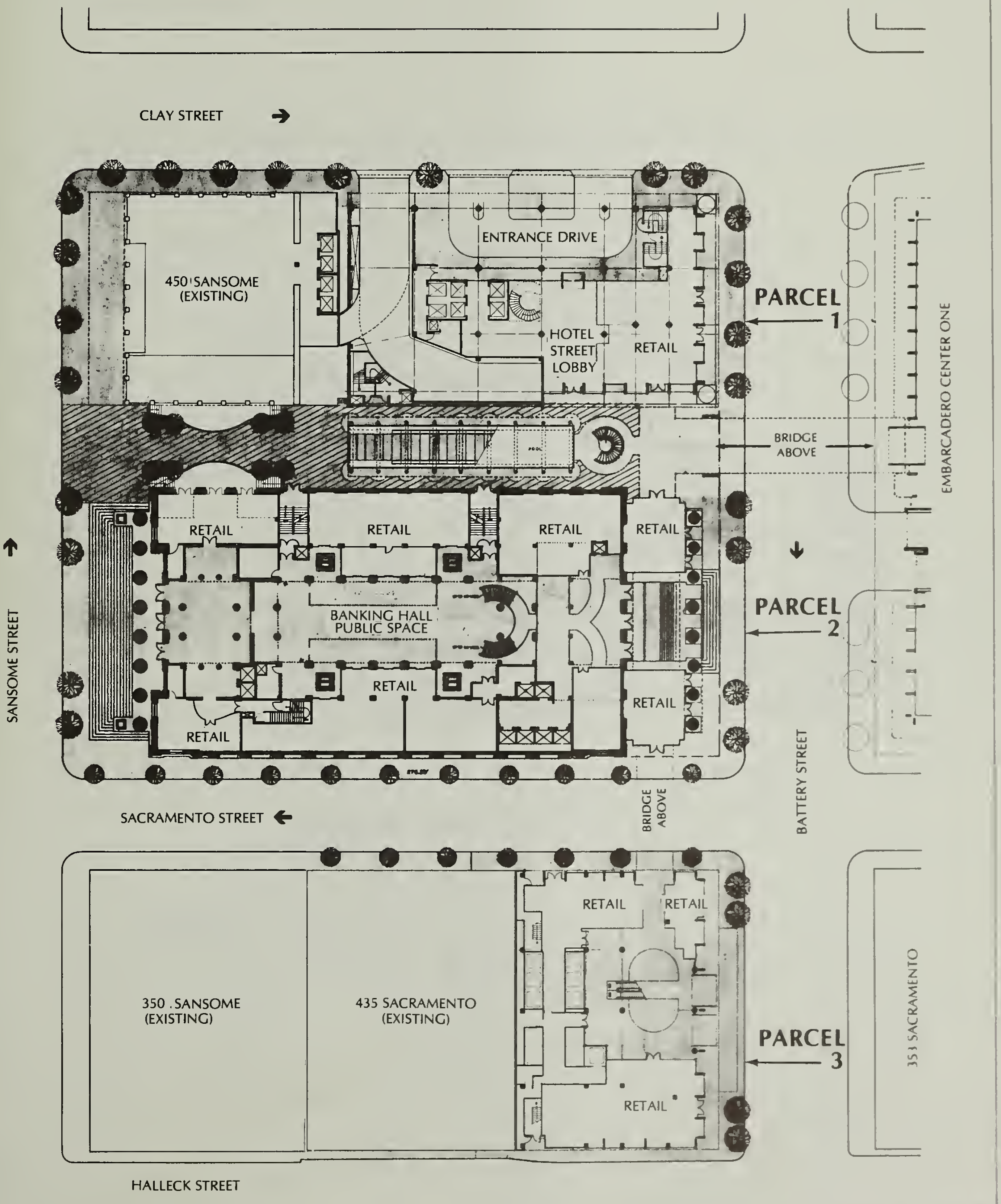
STREET LEVEL FLOOR PLAN

FIGURE 6

OPEN SPACE AREA ▨

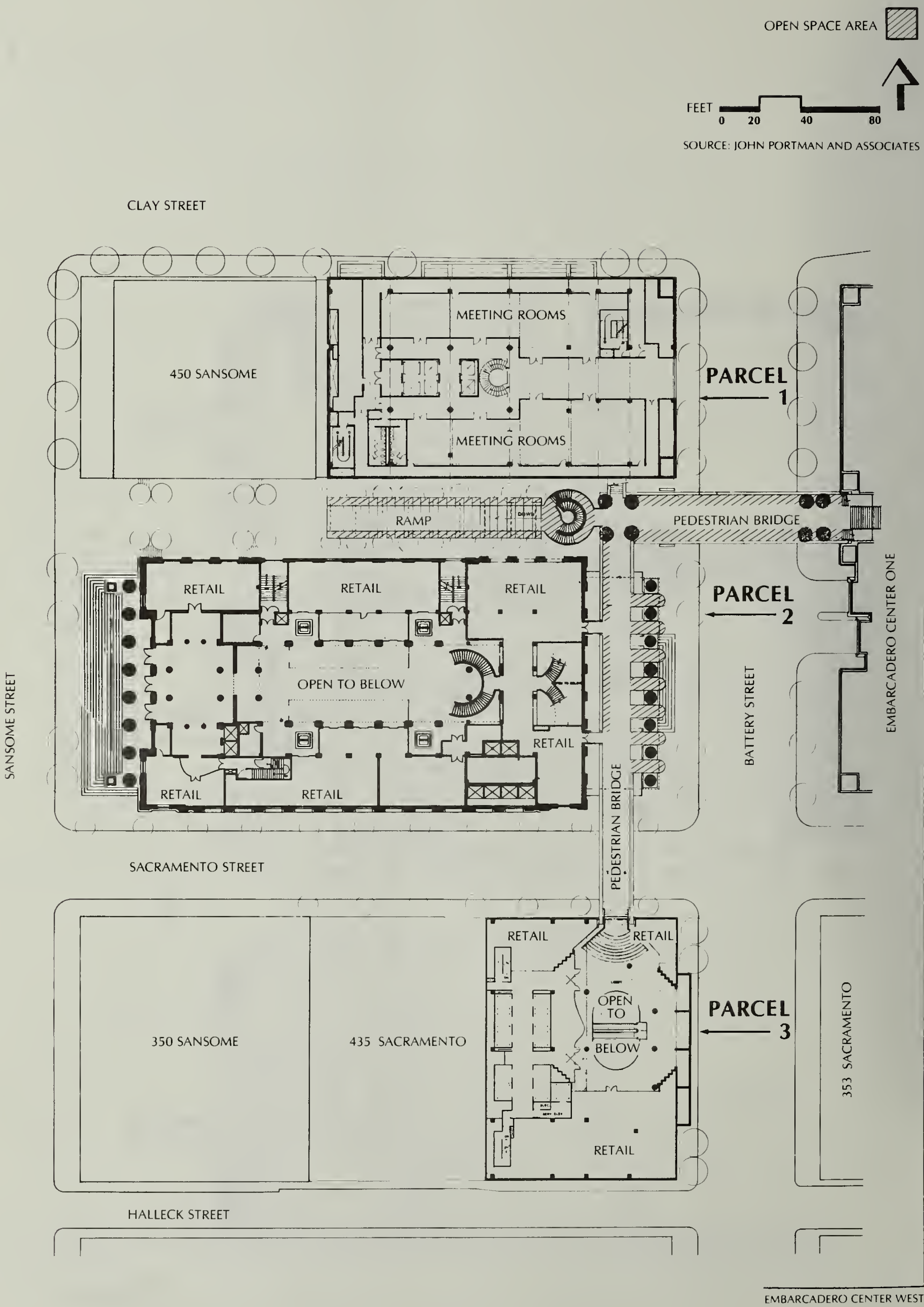


SOURCE: JOHN PORTMAN AND ASSOCIATES



LOBBY LEVEL FLOOR PLAN

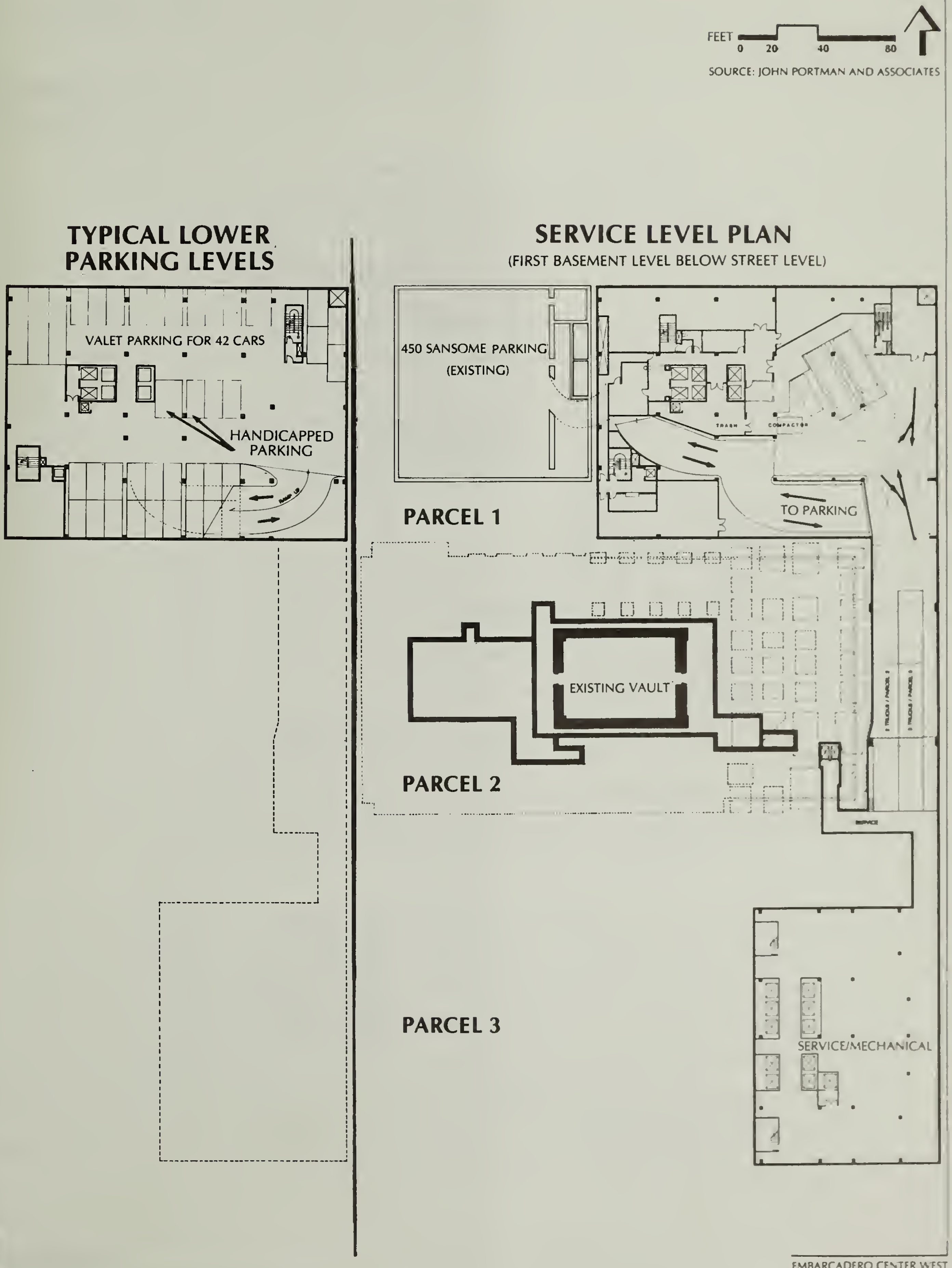
FIGURE 7



SOURCE: JOHN PORTMAN AND ASSOCIATES

BASEMENT LEVEL FLOOR PLANS

FIGURE 8



SOURCE: JOHN PORTMAN AND ASSOCIATES

TYPICAL LOWER PARKING LEVELS

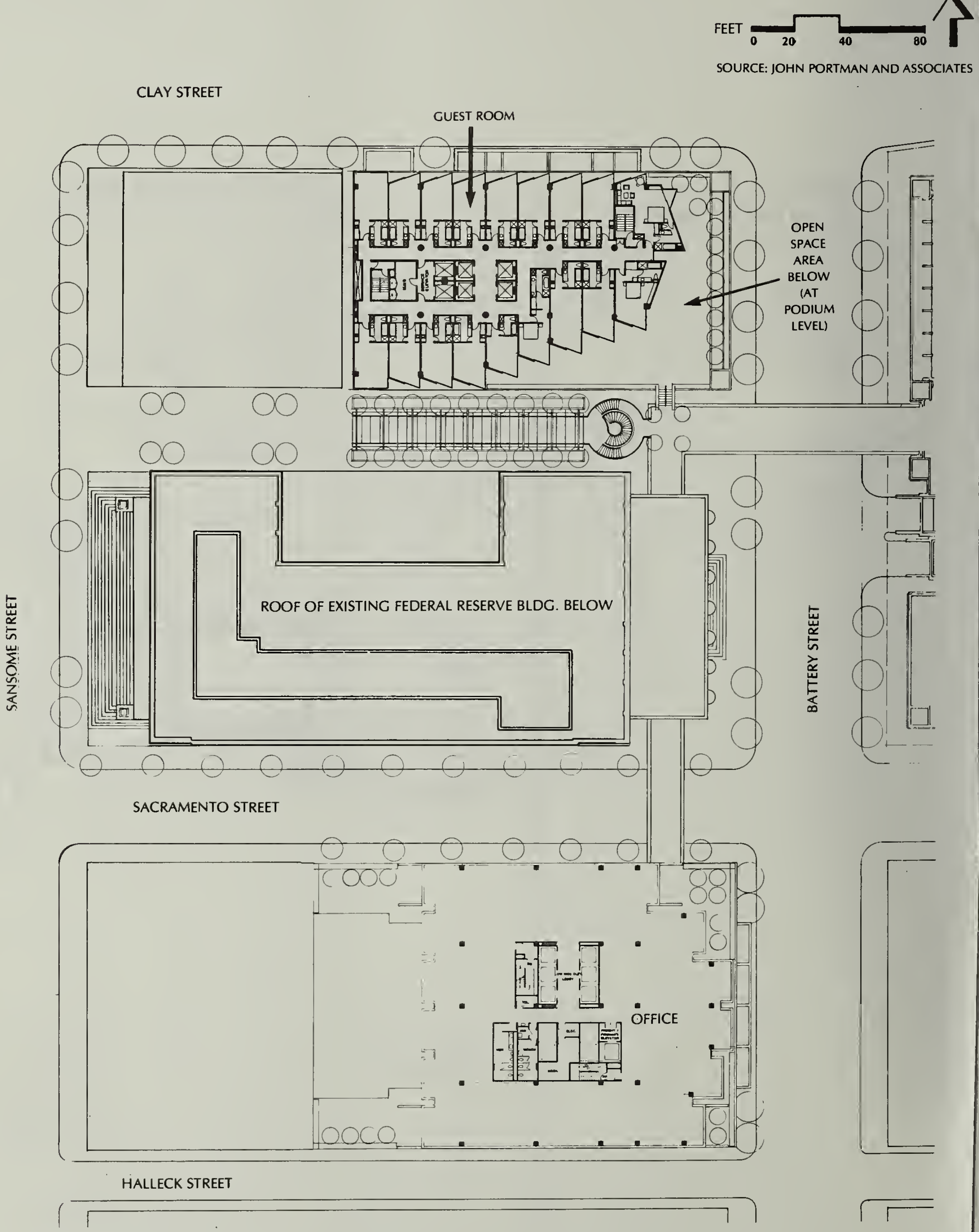
SERVICE LEVEL PLAN

(FIRST BASEMENT LEVEL BELOW STREET LEVEL)

TYPICAL HIGHRISE LEVEL FLOOR PLAN

FIGURE 9

PARCEL 1 — TYPICAL HOTEL FLOOR PLAN
PARCEL 2 — ROOF PLAN
PARCEL 3 — TYPICAL OFFICE FLOOR PLAN



SOURCE: JOHN PORTMAN AND ASSOCIATES

The vacant Federal Reserve Bank building, Parcel 2, would be preserved and remodeled for office and retail uses. The building would be upgraded to meet current seismic standards required by the Building Code and the exterior would be preserved with the following exceptions and additions:

- the motor security platform adjacent to the Battery Street side of the bank building would be removed and replaced with a two-story portico/addition containing primarily retail uses, designed to link with the two newly constructed project structures to the north and south of the building and the existing Embarcadero Center development via pedestrian bridges and walkways.

Pursuant to an agreement between the project sponsor and the Foundation of San Francisco's Architectural Heritage, the recessed portion of the upper floors on the Commercial Street side of the bank building may be built out to the predominant roof and sidewall lines. However, the project sponsor does not propose to include such buildout as a part of the project.

A new portico that would replicate the style and some details of the existing entrance portico on the Sansome Street side would be constructed over the facade on the Battery Street (east) side of the building (see Figure 17, page 50 for a photograph of the existing Sansome Street portico and Figure 20, page 82 for a photomontage of the proposed portico). The portico/addition would include retail and publicly accessible open space. The Federal Reserve Bank is 160 feet (9.5 stories) above grade level and the portico/addition would be approximately 60 feet tall. The remodeled former bank space and the portico/addition would contain approximately 234,000 gsf including 140,000 gsf of office space, 17,815 gsf of retail space, 32,685 gsf of restaurant space and 4,000 gsf of below-grade loading space (5 loading docks, with access to below-grade service space on Parcel 3).

Parcel 3 would contain a mixed-use development of approximately 534,750 gsf including 471,000 gsf of office space, 4,000 gsf of retail space, and 2,500 gsf of restaurant space. The building would rise 400 feet (33 stories) above grade and would have one basement level containing mechanical/service area. Retail and publicly accessible open space would be provided on the first two levels; office space and a mechanical penthouse would occupy the remaining above-grade levels. One below-grade level would contain mechanical/ service space. This new construction would occur on the site of the 241 Battery building, after demolition of that building, and would incorporate the top two levels of the four-story 435 Sacramento Street building. These top two floors, containing approximately 22,000 gsf of office space, would be incorporated into the project. The three levels of parking in the 435 Sacramento building would not be included as part of the project. However, the exterior of the entire 435 Sacramento Street building would be clad to integrate the building with the new Parcel 3 construction.

Commercial Street between Sansome and Battery Streets would be closed to vehicular traffic and replaced with a landscaped pedestrian mall that would include seating, stairs and a ramp leading to the other levels of retail and public open space; a fountain/pool; and access to retail areas within the rehabilitated Federal Reserve Bank. Pedestrian bridges would be constructed over Sacramento and Commercial Streets at the second level to connect the three project parcels, and over Battery Street to connect the project with the existing Embarcadero Center. The bridges would contain about 8,500 gross square feet.

As described above, service/loading facilities which would serve the entire project would be provided below ground on the first (highest) subsurface level beneath Parcel 1, and beneath both a portion of Commercial Street and the Federal Reserve Bank (see Figure 8, page 25). A service access tunnel beneath Sacramento Street would connect the loading area with the service area beneath Parcel 3. All 42 valet parking spaces for the project would be provided on the second subsurface level of Parcel 1.

D. PROJECT SCHEDULE, COST AND REQUIRED APPROVALS

1. Project Schedule and Cost

The project sponsors propose to begin rehabilitation of the Federal Reserve Bank building in Spring 1985, and construction on Parcels 1 and 3 concurrently in mid 1985. Construction would be completed in 1987, for an approximately two-year construction period. Occupancy of the project would commence shortly after completion of construction, in about 1987. The estimated construction cost of the project would be $150 million; total development cost would be about $250 million (1984 dollars).

The estimated construction schedule for the Embarcadero Center West project is as follows:

Parcel 1 - Hotel (Note: Development would be concurrent on all three parcels, and construction phases may overlap.)

Site clearance excavation and shoring/foundation preparation	6	months
Steel erection	5	months
Exterior/interior finishing to initial occupancy	12	months

Parcel 2 - Federal Reserve

Seismic upgrade	2-3	months
New construction/exterior/interior finishing to initial occupancy	14	months

Parcel 3 - Office

Demolition/site clearance/excavation and shoring/foundation preparation	6	months
Steel erection	6	months
Exterior/interior finishing to initial occupancy	12	months

A building permit application for each parcel was filed June 15, 1983 with the City's Department of Public Works (Building Permit Application Nos. 8305676 (Parcel 1), 8305675 (Parcel 2) and 8305677 (Parcel 3)).

2. Project Approvals

The first step in processing the proposed project is public review and a public hearing on this Draft EIR (DEIR), and responses to comments collected during the DEIR review period. The City Planning Commission (CPC) must certify the EIR as complete, accurate and objective. After certification, the following special authorization and approval actions would be required:

a. Discretionary Review

The proposed project is subject to review by the City Planning Commission of downtown projects under the Commission's powers of Discretionary Review.[3] Criteria evaluated under this process include the protection and enhancement of the pedestrian environment; preservation of architecturally and historically significant buildings; adequate and appropriate means of transportation to and from the project site; energy conservation; the physical relationship of the proposed buildings to their environs; and effects on views from public areas and on the City skyline. The City Planning Commission would review the building design and its environmental context, then act to approve, approve with conditions or disapprove the building permit for the project.

In August 1983, the Department of City Planning published The Downtown Plan, Proposal For Citizen Review, amended in June, October, and November 1984. The Plan and amendments contain a series of regulatory proposals and controls for San Francisco's downtown (C-3) districts. The relationship of the project to the major proposals and controls of the Plan is discussed in Section IV.A, Land Use, pages 75 through 77 of this report. In addition, an alternative conforming with the Downtown Plan is discussed in Section VII.C, Alternatives, pages 202 through 207.

The City Planning Commission has adopted interim controls and approved permanent controls to amend the City Planning Code and has incorporated the Downtown Plan into the Master Plan to implement the Downtown Plan. The permanent controls ordinance requires adoption by the Board of Supervisors and signature by the Mayor; the interim controls ordinance is subject to veto by the Board of Supervisors; Master Plan amendments were approved by the Planning Commission, November 29, 1984. Pursuant to Section 175.2(a)(2)(A) of the Planning Code (as amended by the interim and permanent Downtown Plan Control Ordinances), the project is exempt from the Downtown Plan, and may be approved as a Conditional Use pursuant to Section 175.2(b) of the Planning Code. In determining such Conditional Use approval, the City Planning Commission must consider, but is not required to impose, various requirements of the Downtown Plan, as therein set forth.

According to Section 303 of the Planning Code, a development must meet certain criteria before Conditional Use authorization may be granted. The criteria require that the proposed development be necessary or desirable for, and compatible with, the neighborhood; that it not be detrimental to the health, safety, convenience or general welfare of those in the vicinity; and that it comply with the intent of the Code and not adversely affect the Master Plan.

The project would demolish the 241 Battery Street (Eastman Kodak) building, which is rated "B" by the Foundation for San Francisco's Architectural Heritage. Demolition plans would require special review by the City Planning Commission, pursuant to CPC Resolution 8600.

b. Certificate of Appropriateness

On January 7, 1983 the Federal Reserve Bank was designated City Landmark Number 158. Persuant to Section 1006 of the Planning Code, the project would require a Certificate of Appropriateness from the City Planning Commission for alteration of a landmark structure. The City's Landmarks Preservation Advisory Board would review the project and would present its recommendation to the City Planning Commission, which would approve or disapprove the Certificate of Appropriateness.

c. Authorization for Closure and Use of Commercial Street Between Sansome and Battery Streets; for Loading and Service Area Under Commercial Street and Loading Access Under Sacramento Street; and for Pedestrian Bridges Over Battery, Sacramento and Commercial Streets.

The street closure and/or use of City property or of air space above City property for pedestrian bridges would require approval by the Department of Public Works and Master Plan referral (approval for conformity with the Master Plan) by the City Planning Commission. These permits must be subsequently reviewed and approved by the Board of Supervisors.

Discretionary Review and other Planning Commission review actions could occur concurrently.

---

[1] Excluding the three levels of parking, all property rights to the 435 Sacramento building are under option to the project sponsor.

[2] Open space would include 3,750 gsf on Parcel 1, 4,250 gsf of sitting areas on pedestrian bridges, and 11,000 gsf of ramp and other pedestrian-oriented improvements on Commercial Street, between Sansome and Battery Streets.

[3] San Francisco Planning Commission, Resolution 8474, adopted January 17, 1980, applicable to proposals in the C-3 district.

III. ENVIRONMENTAL SETTING

A. LAND USE AND ZONING

1. Land Use

The project site includes three parcels with a total area of 71,144 square feet (81,044 square feet including the portion of Commercial Street proposed for a landscaped pedestrian area, located four blocks north of Market Street in San Francisco's financial district. Parcel 1 (Assessor's Block 229, Lot 20) contains a surface parking lot, at Clay and Battery Streets. Parcel 2 (Lot 3, in the same Assessor's Block) is occupied by the former Federal Reserve Bank building (400 Sansome Street). Parcel 3 (Assessor's Block 238, Lots 1 and 7) is occupied by a vacant office/warehouse (241 Battery) on Lot 1, and a four-story, mixed-use building (435 Sacramento) with two levels of office space above three levels of parking (one below grade) on Lot 7. With the exception of 435 Sacramento, all on-site structures are vacant. Both the bank building and 241 Battery were vacated by the Federal Reserve Bank when it moved to new Market Street headquarters in 1982. Existing on-site land uses, lot sizes, height and distribution of gross area are shown in Table 2, page 33. With the project, the Federal Reserve Bank would be restored and remodeled for office, restaurant and retail uses. The top two floors of the 435 Sacramento Street building would be incorporated into the project; the three levels of parking would remain and are not part of the project. Construction of the project would require demolition of the 241 Battery (Eastman Kodak) building.

The central business district, including the financial district, contains most of the City's recent high-rise office development and includes early 20th-century banking and office buildings. Land uses in the project vicinity consist primarily of office buildings with ground-floor retail or financial institutions (see Figure 10, page 34). The Embarcadero One, Two, Three and Four buildings begin directly east of the site. Together with the Hyatt Regency Hotel, these four buildings form the Embarcadero Center office, hotel and retail complex. The project is intended as the western part of the Embarcadero Center development. The Alcoa Building, including the Maritime Plaza open space, lies northeast

TABLE 2
EXISTING LAND USES ON THE PROJECT SITE

	PARCEL 1	PARCEL 2	PARCEL 3	
	(AB229/Lot 20)	(AB229/Lot 3)	(AB238/Lot 1)	(AB238/Lot 7)
Street Address	331-43 Battery	400 Sansome	241 Battery	435 Sacramento
Use	Parking Lot	Federal Reserve Bank (vacant)	Office/ Warehouse (both vacant)	Office/Parking
Lot Area (sq. ft.)	15,451	32,886	11,248	11,559
Lot Coverage	100% (open area)	75%	100%	100%
Building Height	N/A	160 feet	58 feet	40 feet
Stories		9.5 + 2 basement levels	4	4 + 1 basement level
Gross Building Area (gsf)	N/A	229,000[2]	56,350[3]	46,200
Office Space (gsf)	N/A	-	-	22,000[4]
Warehouse Space (gsf)	N/A	N/A	-	N/A
Parking (gsf)	15,450	N/A	N/A	33,000[4]
Parking Spaces	75[1]	N/A	N/A	120

---

[1] 75 parking spaces are available during the daytime with attendant parking, 50 spaces at night with self-parking.

[2] Total includes 188,000 gsf of formerly occupied office space, and 41,000 gsf of storage and mechanical space.

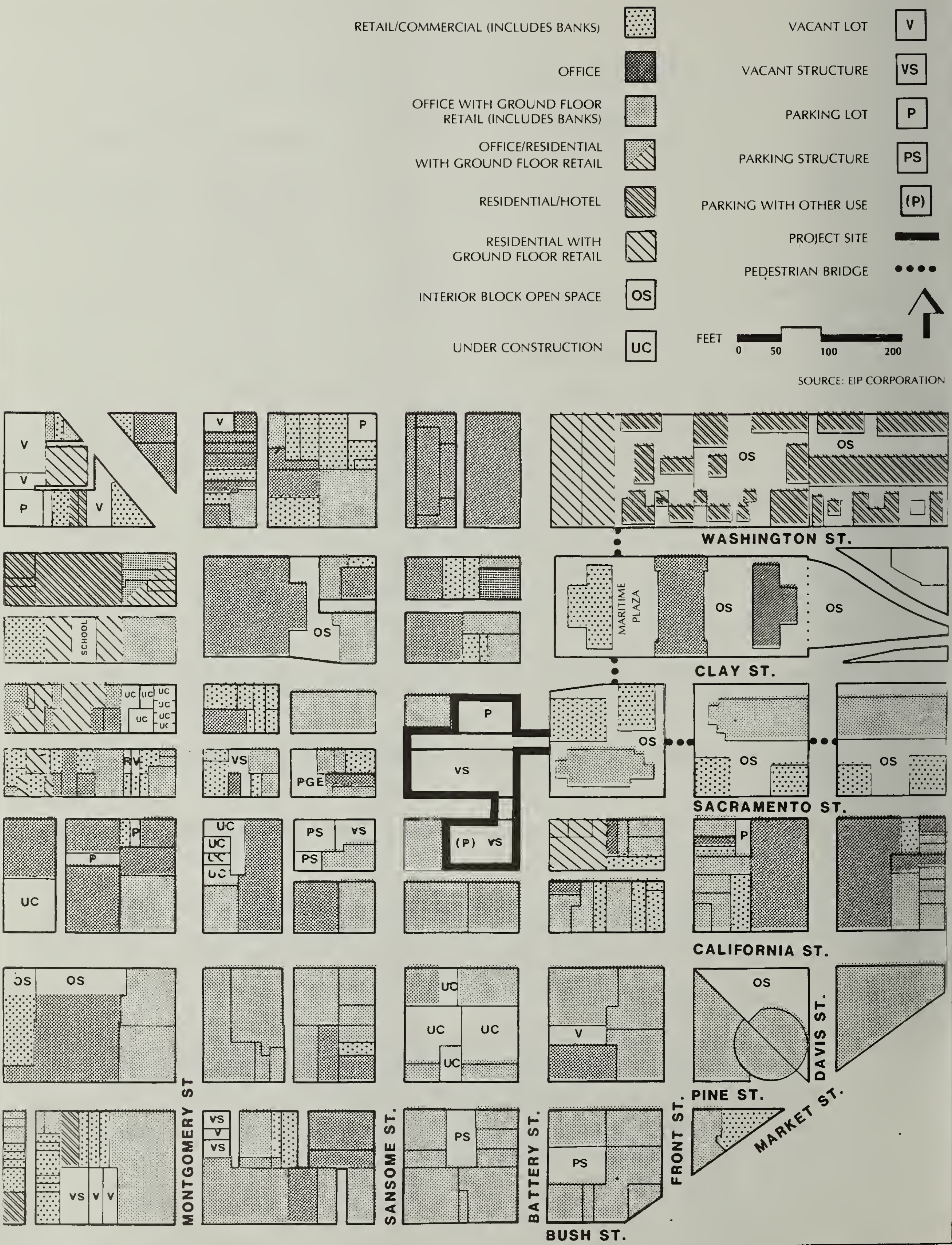
[3] Total includes 5,000 gsf of formerly occupied office space, and 51,350 gsf of formerly occupied warehouse space.

[4] Two floors of office space and development rights associated with 435 Sacramento Street are included in the project. Two levels of above-grade parking and one level of parking below grade are located on the 435 Sacramento site but are not under option to the project sponsor and are therefore not included in the project. (See detailed discussion in Project Description, page 12.)

Source: Recht Hausrath and Associates, Data and Calculations for the Downtown EIR, prepared for San Francisco Department of City Planning, July 7, 1982. The completed inventory is available for public review at the Department of City Planning, 450 McAllister Street, Room 400. Data has been updated by EIP field check, June 24, 1983 and by Bruce W. Jones, Vice President, Embarcadero Center, Inc., telephone conversation, January 5, 1984.

EXISTING LAND USE

FIGURE 10



SOURCE: EIP CORPORATION

of the site. The recently completed 353 Sacramento building is directly east of Parcel 3. Within several blocks of the site are a number of high-rise office buildings built in the 1960's, 70's and 80's, including the Transamerica Pyramid at Clay and Montgomery Streets; Bank of America tower at California and Kearny Streets; Bank of California at Sansome and California Streets; Bank of Canton at Commercial and Montgomery Streets; and Pacific Lumber Company at Sansome and Washington Streets.

On the west, clustered in an area bounded by Sansome, Grant, Washington and California Streets are numerous two- to four-story buildings containing restaurants, bars, travel agencies, sandwich shops, stationers, clothing shops, shoe repair outlets, small grocery stores and medical and professional offices. Within three blocks of the site are the borders of San Francisco's Chinatown community (to the west), the Jackson Square Historic District (northeast) and the Golden Gateway Center (northeast). The Golden Gateway Center (at Battery Street between Washington and Jackson) represents the major residential use in the immediate vicinity, with other residences in the 655 Montgomery Building at the intersection of Washington and Montgomery Streets, and in residential hotels to the west. About three blocks south of the project site Market Street, a major transit and traffic corridor, links the downtown with areas south and west.

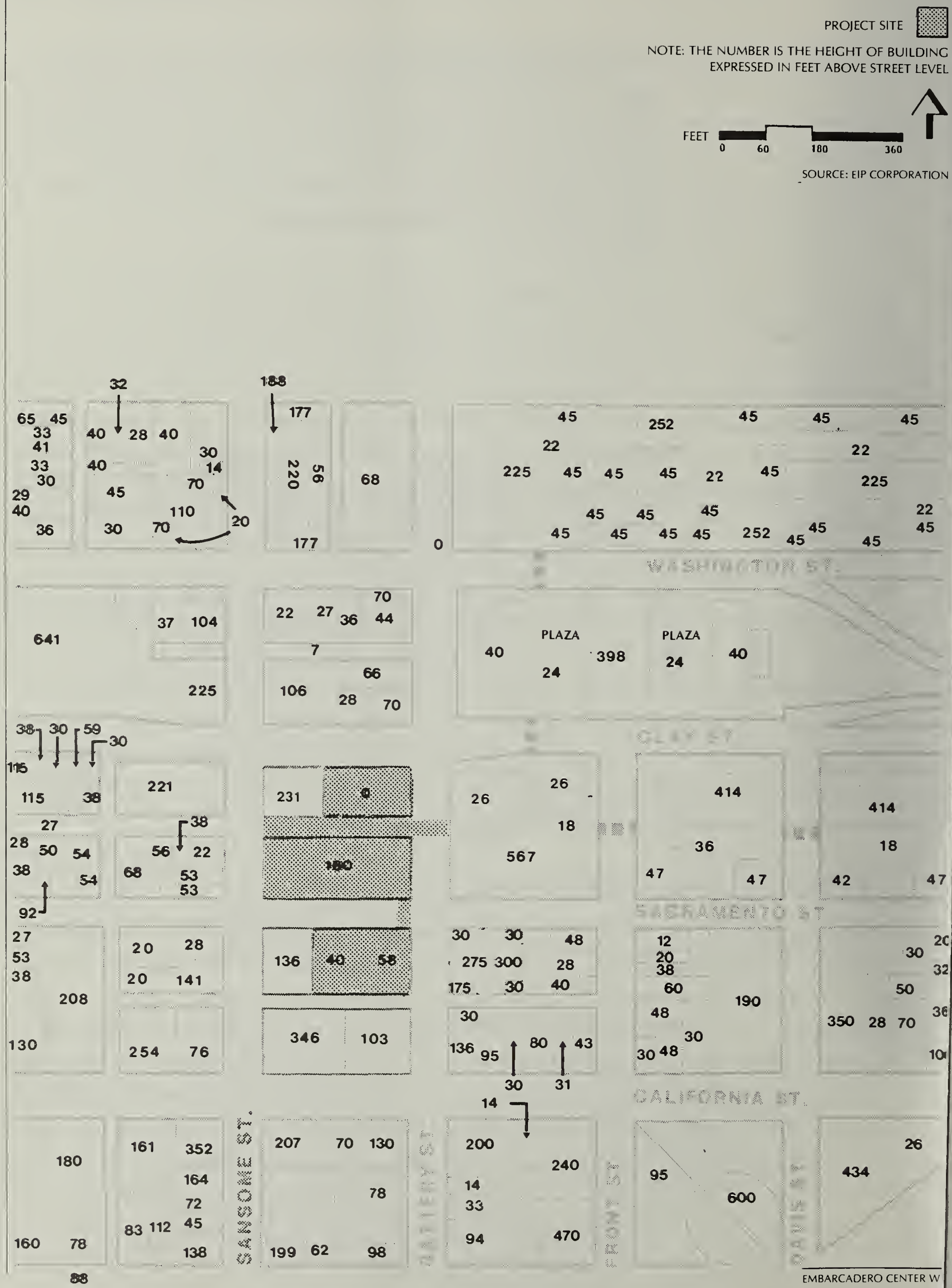
Building heights in the project area range from about 20 feet to 641 feet (the Transamerica Pyramid) with most buildings from 150 to 250 feet tall (see Figure 11, page 36). Most buildings fully cover their lots. In the project vicinity there is open space in the Embarcadero Center, at Maritime Plaza, at the Golden Gateway Center and at the base of the Transamerica Pyramid (Redwood Park).

2. Cumulative Downtown Office Development

Projects under review, approved or under construction as of March 10, 1984 include projects in the greater downtown area outside of the C-3 District as well as in the C-3 districts (Appendix E, Tables E-1, page A-49, and E-2, page A-57). Based on this information, 5.5 million gsf of net new office space will be added when the buildings under construction are finished; an additional 4.8 million square feet of net new office space has been approved but is not yet under construction. Another 8.7 million square feet would be added if the projects under formal review, as of March 10, 1984, were eventually built. This total of about 19.0 million gsf of net new office space (under formal review,

EXISTING BUILDING HEIGHTS

FIGURE 11



NOTE: THE NUMBER IS THE HEIGHT OF BUILDING EXPRESSED IN FEET ABOVE STREET LEVEL

SOURCE: EIP CORPORATION

approved, under construction, or completed but not fully occupied, as of March 10, 1984) includes Embarcadero Center West, listed as adding about 382,000 gross feet of net new office space. "Net" includes additional space, subtracting existing space on sites being developed or proposed for development.[1]

Office space projections in the Downtown Plan EIR indicate the C-3 District would contain approximately 70.5 million gsf of office space by 1990, and 78.9 million gsf of office space by 2000.[2] Alternatives analyzed for the Downtown Plan EIR indicate a range of 77.5 million to 86.5 million square feet of total office space in the C-3 District by 2000 (including existing space).[3] Forecasts in the Downtown Plan EIR indicate net increases of office space in the downtown of approximately 1.4 million square feet per year between 1984 and 1990 and a range of 0.7 to 1.6 million square feet per year between 1990 and 2000, for development according to the Downtown Plan.

Within a three-block radius of Embarcadero Center West are 15 other developments under formal review, approved or under construction (Table 3, page 38, and Figure 12, page 39). As of March 10, 1984, of a total of 2,481,550 gsf of net new office space planned in the project study area, 1,490,050 gsf have been approved or are under construction. As of March 10, 1984, the remaining 991,500 gsf were under formal review and subject to temporary interim controls.[4] Those temporary interim controls expired August 24, 1984, and any projects still pending and not yet approved or exempted are subject to Downtown Plan interim controls.[5] See Section IV.A, Land Use Impacts, pages 69 through 78, for further discussion of the Downtown Plan related to the project.

3. Zoning

The project site is in the C-3-0 (Downtown Office) district (see Figure 13, page 40). Offices, retail establishments and hotels are principal permitted uses in this district. As stated in the Planning Code: "Office development is supported by some related retail and service uses within the area, with unrelated uses excluded in order to conserve the supply of land in the core and its expansion areas for further development of major office buildings."[6] Buildings in this district may have a basic Floor Area Ratio (FAR) of 14:1; based on the area of the project site not including 9,900 square feet of Commercial Street, the allowable gross floor area for the site would be 996,016 square feet (71,144 sq. ft. x 14 = 996,016 sq. ft.). A transfer of permitted basic gross floor area, pursuant to

TABLE 3

OFFICE DEVELOPMENT IN THE PROJECT VICINITY AS OF MARCH 10, 1984
(As Shown in Figure 12)

Assessor's Block	Case No.	Project Name	Office Gross Sq. Ft. Total New Construction	Office Gross Sq. Ft. Net New Construction	Retail Gross Sq. Ft. Total New Construction	Retail Gross Sq. Ft. Net New Construction
PROJECTS UNDER FORMAL REVIEW						
195	82.643E	660 Washington	3,938	3,938	--	--
227	82.463E	505 Montgomery	327,300	300,670	12,100	-4,775
228	82.422E	560 Sacramento	48,000	31,000	--	--
229	83.222EC	Embarcadero Center West	575,000	382,000	9,000	9,000
236	82.511E	222 Front	40,250	33,400	3,250	--
266	83.420ED	98 Battery	169,000	106,500	--	--
267	83.421ED	225 Pine	134,000	134,000	--	
		SUBTOTAL	1,297,488	991,500	24,350	4,225
APPROVED PROJECTS						
265	81.195ED	388 Market at Pine (M)	234,500	85,500	10,000	-8,500
268	81.422D	250 Montgomery at Pine	105,700	65,700	8,000	8,000
		SUBTOTAL	340,200	151,200	18,000	-500
PROJECTS UNDER CONSTRUCTION						
208	81.104EDC	Washington/Montgomery (M)	235,000	233,300	4,000	-1,200
227	EE80.296	Bank of Canton	230,500	177,500	---	-800
239	DR80.1	456 Montgomery	160,550	160,550	24,250	24,250
240	81.705ED	580 California/Kearny	329,500	260,000	6,500	6,500
261	81.249ECQ	345 California (M)	640,000	466,500	15,500	15,500
262	81.206D	130 Battery	41,000	41,000	---	---
		SUBTOTAL	1,636,550	1,338,550	50,250	44,250
	TOTAL PLANNED DEVELOPMENT		3,274,238	2,481,250	92,600	47,975

(M) = Mixed Use (office/residential/commercial)

Source: Department of City Planning, Downtown Cumulative Office Development List, March 10, 1984.

CUMULATIVE OFFICE DEVELOPMENT IN THE PROJECT VICINITY

FIGURE 12

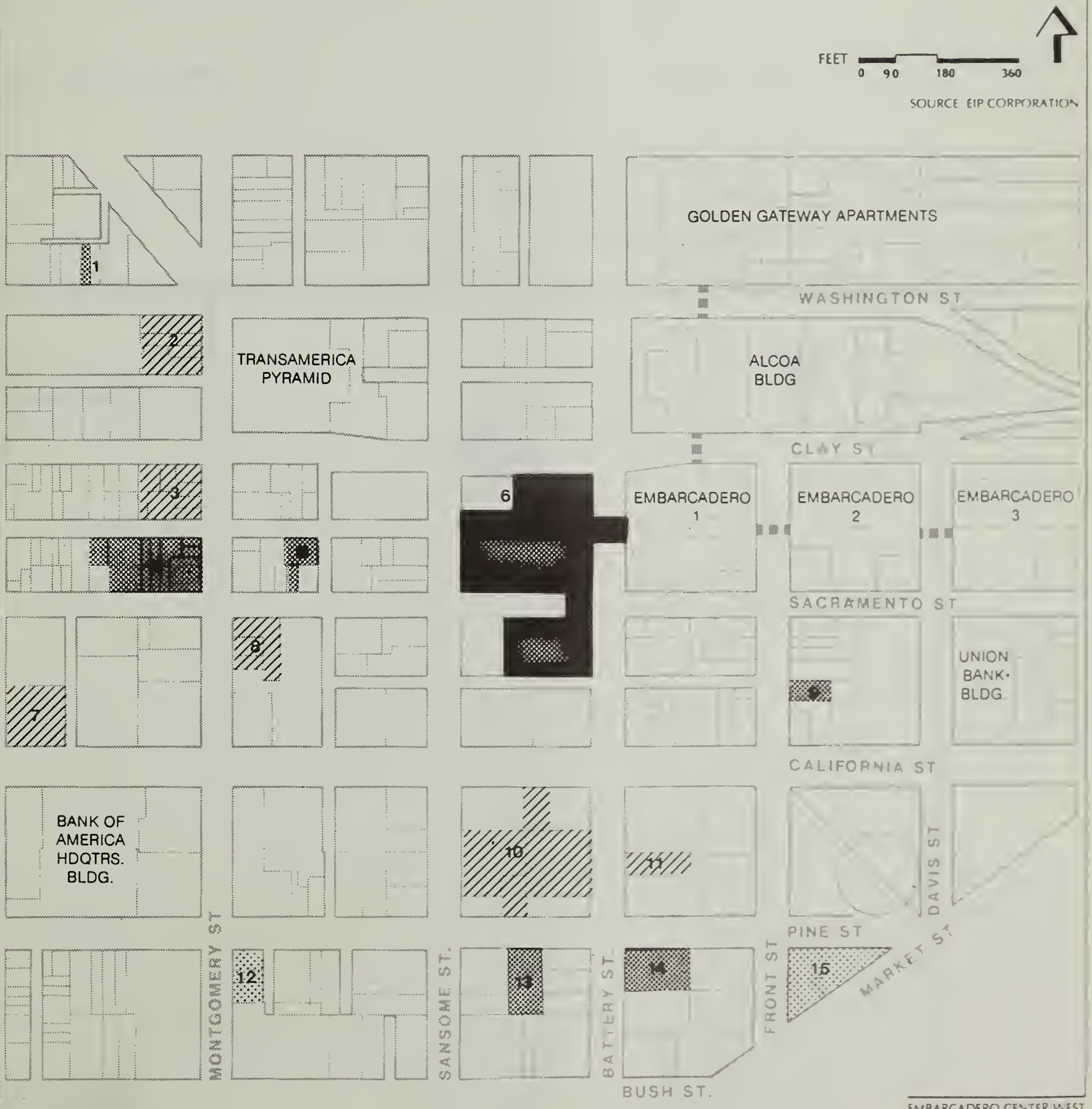
Project	No.
660 WASHINGTON	1
MONTGOMERY/WASHINGTON	2
BANK OF CANTON	3
505 MONTGOMERY	4
560 SACRAMENTO	5
EMBARCADERO CENTER WEST	6
580 CALIFORNIA	7
456 MONTGOMERY	8
222 FRONT	9
345 CALIFORNIA	10
130 BATTERY	11
250 MONTGOMERY	12
225 PINE	13
98 BATTERY	14
388 MARKET	15

PROJECT SITE ▬

PROJECTS UNDER FORMAL REVIEW ▩

APPROVED PROJECTS ░

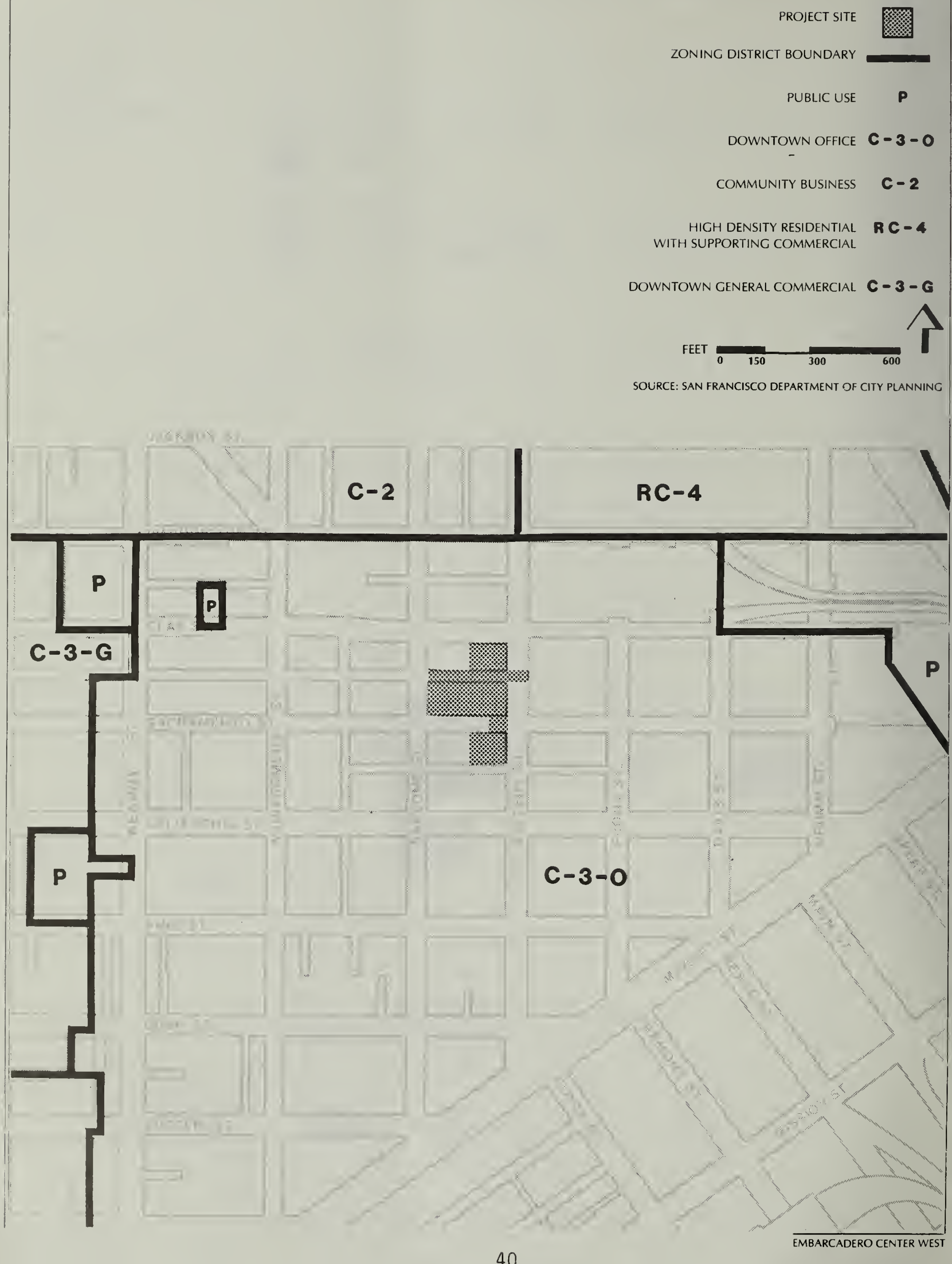
PROJECTS UNDER CONSTRUCTION ▨



SOURCE EIP CORPORATION

ZONING DISTRICTS

FIGURE 13



SOURCE: SAN FRANCISCO DEPARTMENT OF CITY PLANNING

Section 127 of the Planning Code, could add to the FAR for an allowable FAR in excess of 14:1.

The height and bulk district for Assessor's Block 229 (Parcels 1 and 2) is 400-I, in which the maximum permitted height is 400 feet (see Figure 14, page 42). The maximum dimensions of a "I" bulk district allow full site coverage up to 150 feet in height. Between 150 feet and the 400-foot limit the maximum building length is 170 feet and the maximum diagonal dimension is 200 feet. The height and bulk district for Assessor's Block 238 (Parcel 3) is 450-I, in which the maximum permitted height is 450 feet. Full site coverage is permitted up to 150 feet in height. Between 150 feet and the 450-foot limit, the maximum building length is 170 feet and the maximum diagonal dimension is 200 feet.

The Downtown Plan, Proposal for Citizen Review, Department of City Planning, August 1983, as amended, contains regulations for development in the Downtown. The Downtown Plan height limits are 250 feet on Parcel 1, 75 feet on Parcel 2, and 400 feet on Parcel 3.

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[1] The 382,000 gsf given for the project subtracts formerly occupied office space.

[2] San Francisco Department of City Planning, Downtown Plan EIR, EE81.3, certified October 18, 1984, Pages IV.B.28 and IV.B.31.

[3] Ibid., Appendices, pages G.37-G.41.

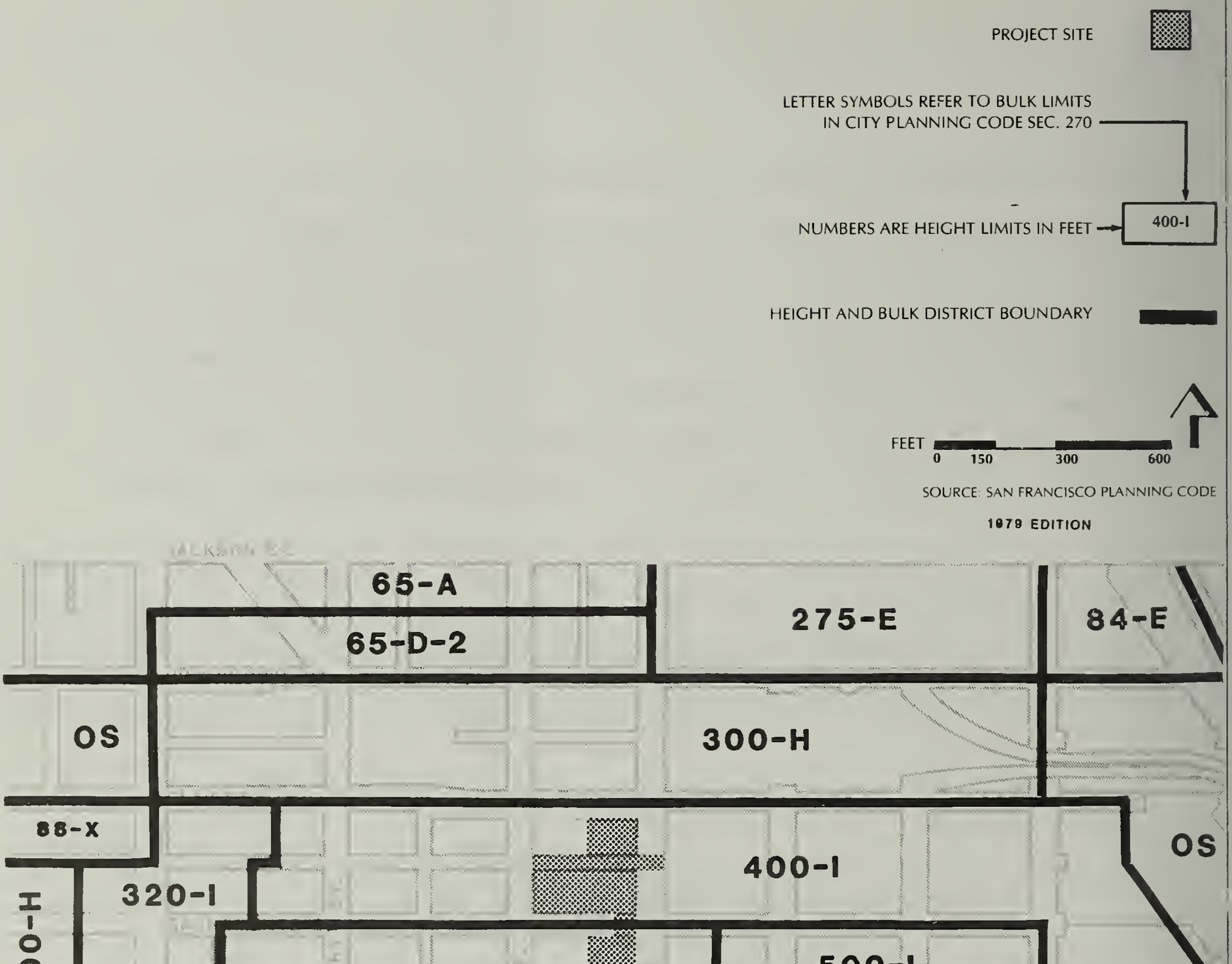
[4] City and County of San Francisco, San Francisco Planning Code, Section 175.1, as amended by City Ordinance 54-84, adopted by the Board of Supervisors, January 23, 1984.

[5] City and County of San Francisco, Planning Commission Resolution No. 10166, adopted November 29, 1984, imposing Downtown Plan Interim Controls.

[6] City and County of San Francisco, San Francisco Planning Code, Section 210.3, 1979 edition.

HEIGHT AND BULK DISTRICTS

FIGURE 14



SOURCE: SAN FRANCISCO PLANNING CODE

1979 EDITION

B. ARCHITECTURAL RESOURCES

The project site contains three buildings, two of which are architecturally rated. The Federal Reserve Bank building and the 241 Battery building (also known as the Eastman Kodak Building) are both included in the list of Architecturally and/or Historically Significant Buildings in the Downtown, adopted by City Planning Commission Resolution No. 8600. The Federal Reserve Bank building, at 400 Sansome Street, is rated "B" by the Foundation for San Francisco's Architectural Heritage (Heritage) in Splendid Survivors. (A "B"-rated building is considered by Heritage to be a building of major importance, "of individual importance by virtue of its architectural, historical, and environmental criteria.")[1,2] The Federal Reserve building is designated San Francisco City Landmark No. 158, and has been declared eligible for listing on the National Register of Historic Places by the Secretary of the Interior. As part of the project, the exterior of the Federal Reserve would be preserved and the building rehabilitated. The Eastman Kodak building at 241 Battery Street is also rated "B" in Splendid Survivors. It has been determined to be ineligible for listing on the National Register for Historic Places. This building would be demolished. Neither the Federal Reserve Bank building nor the Eastman Kodak building was rated in the 1976 architectural survey of the Department of City Planning.[3] Both buildings are shown in Figure 15, page 44 and discussed below. (See Appendix F, page A-60, for a discussion of the architectural rating systems.)

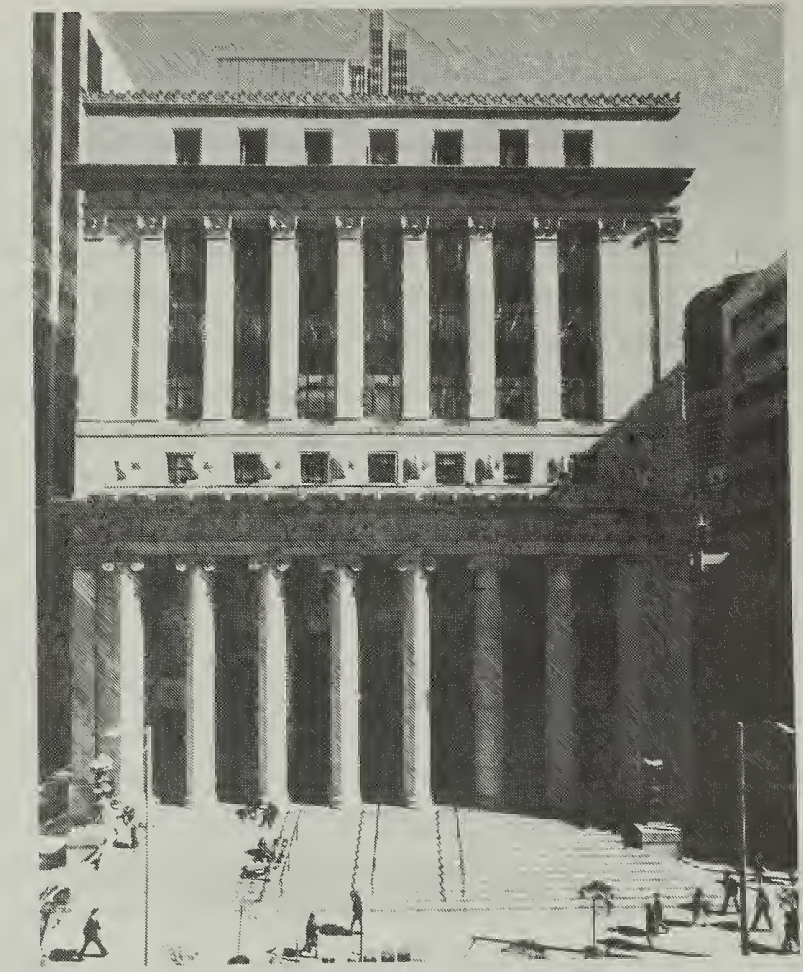
1. The Federal Reserve Building

The Federal Reserve Bank building is a nine-story building above a raised basement and sub-basement, resting on a foundation of wood pilings. It has a steel and frame construction with reinforced concrete floors. The walls are brick with granite facing on the Sansome, Sacramento and Battery Street facades. The fourth facade faces Commercial Street and is of brick without facing. The building is a rectangular structure with a low-hipped roof. The two principal facades, on the east and west sides, include two-level colonnades. Major interior features include a two-story marble entrance hall with a 40-by-9-foot oil on canvas mural, "The Traders of the Adriatic," by Jules Guerin; a two-story banking hall with mezzanine, and paired columns at either end; and basement and sub-basement banking vaults.[4]

PROJECT SITE PHOTOGRAPHS

FIGURE 15

SOURCE: EIP CORPORATION



FEDERAL RESERVE BANK SANSOME STREET FACADE

241 BATTERY (EASTMAN KODAK BLDG.)

The building's main entrance is set back about 20 feet from Sansome Street; broad entry stairs lead to a slightly projecting porch with freestanding eagles on the portico. The rear facade on Battery Street is set back about 41 feet behind a six-foot-high motor vehicle platform for secure vehicle access to the vaults.[4] (See Figure 18, page 55 for a Battery Street view of the building.)

The building was constructed in stages, the first stage beginning in 1922, with final stages of the original design completed in 1955. Its style is Neoclassical Revival and its designer was George Kelham, a well-known local architect. The building reflects the federal government's increasing turn-of-the-century association with monumental forms, an architectural presentation of federal power.[4]

Throughout the history of the United States, the regulation of banking and the issue of national versus state jurisdiction caused considerable debate. Eventually enough support was gained for regulation at the federal level, and the Federal Reserve Act was signed into law in 1913. San Francisco was designated as headquarters for the Twelfth District, encompassing nine western states. The Bank first rented quarters at 25 New Montgomery. In 1917 and 1918 it purchased its current site but deferred construction because of World War I. During that time, the Bank moved into a remodeled building at the southwest corner of Battery and Commercial Streets. The new structure was constructed in an L-shape around the remodeled structure, which was then demolished so that the Battery Street facade of the present building could be completed. In the summer of 1982, the Federal Reserve Bank moved its operations to a newly constructed headquarters at Market between Spear and Main Street.[4] Prior to moving to its new location, the Bank occupied space in the Federal Reserve Bank building (400 Sansome), the 241 Battery building, used the surface parking lot at Battery and Commercial, and leased space at 450 Sansome Street.[5]

2. 241 Battery: The Eastman Kodak Building[6]

The 241 Battery Street, Eastman Kodak building is a four-story, reinforced concrete structure with concrete floor slabs. It was constructed as a five-bay, two-story building in 1911, for use as a camera repair and distribution facility. A two-bay addition was added along Sacramento Street in 1926. The third floor of the building is windowless except for windows facing a light well at the rear of the building. A fourth story was added in 1939 to accommodate a film processing laboratory.

The building was designed by Bliss and Faville in the Second Renaissance Revival style with an emphasis on models of early Italian Renaissance design. The entrance is in the center bay of the original Battery Street facade. Two-story arched windows separated by pilasters are a dominant feature of the building exterior. The original plans show that about 40% of the first floor area was office space with 60% devoted to storage. The second floor served largely as a stock room with the rear area designated as a packing room. Although now vacant, the front area of the first floor was most recently used as offices; the rest of the building was used as warehouse space.

3. Architectural Resources in the Vicinity

Three buildings in the immediate vicinity of the proposed project are rated "A" (of highest importance) by Heritage, including the Bank of California building, a City landmark; there are seven "B"-rated buildings (of major importance), and eleven "C"-rated buildings (buildings recognized for contextual importance). A number of buildings in the project area are rated in the 1976 architectural survey of the Department of City Planning (DCP). Figure 16, page 47, identifies those buildings in the project area included in (1) Splendid Survivors, (2) the List of Architecturally and/or Historically Significant Buildings in the Downtown (composed of buildings rated "A" or "B" by Heritage), and (3) the list of City landmarks.

Some of the buildings include the Fidelity Building at 260 California, rated "A" by Heritage and "3" in the DCP inventory, located one-half block southeast of the site, the Bank of California at 400 California, noted above, rated "A" in the Heritage Survey and designated a City landmark, located one-half block southwest of the site, and the Pacific Gas and Electric Substation J, rated "A" by Heritage and "3" in the DCP inventory, located one-half block west of the site. A portion of an historic structure at 353 Sacramento Street was replicated as a facade for the new structure at that site, across Battery Street from the project. It is considered a "demolished resource" by Heritage.

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[1] The Foundation for San Francisco's Architectural Heritage, Splendid Survivors, San Francisco, California Living Books, 1979.

[2] Heritage is a non-profit historic preservation organization that has identified and documented San Francisco buildings that it considers significant, in Splendid Survivors,

ARCHITECTURALLY/HISTORICALLY SIGNIFICANT BUILDINGS IN THE PROJECT AREA

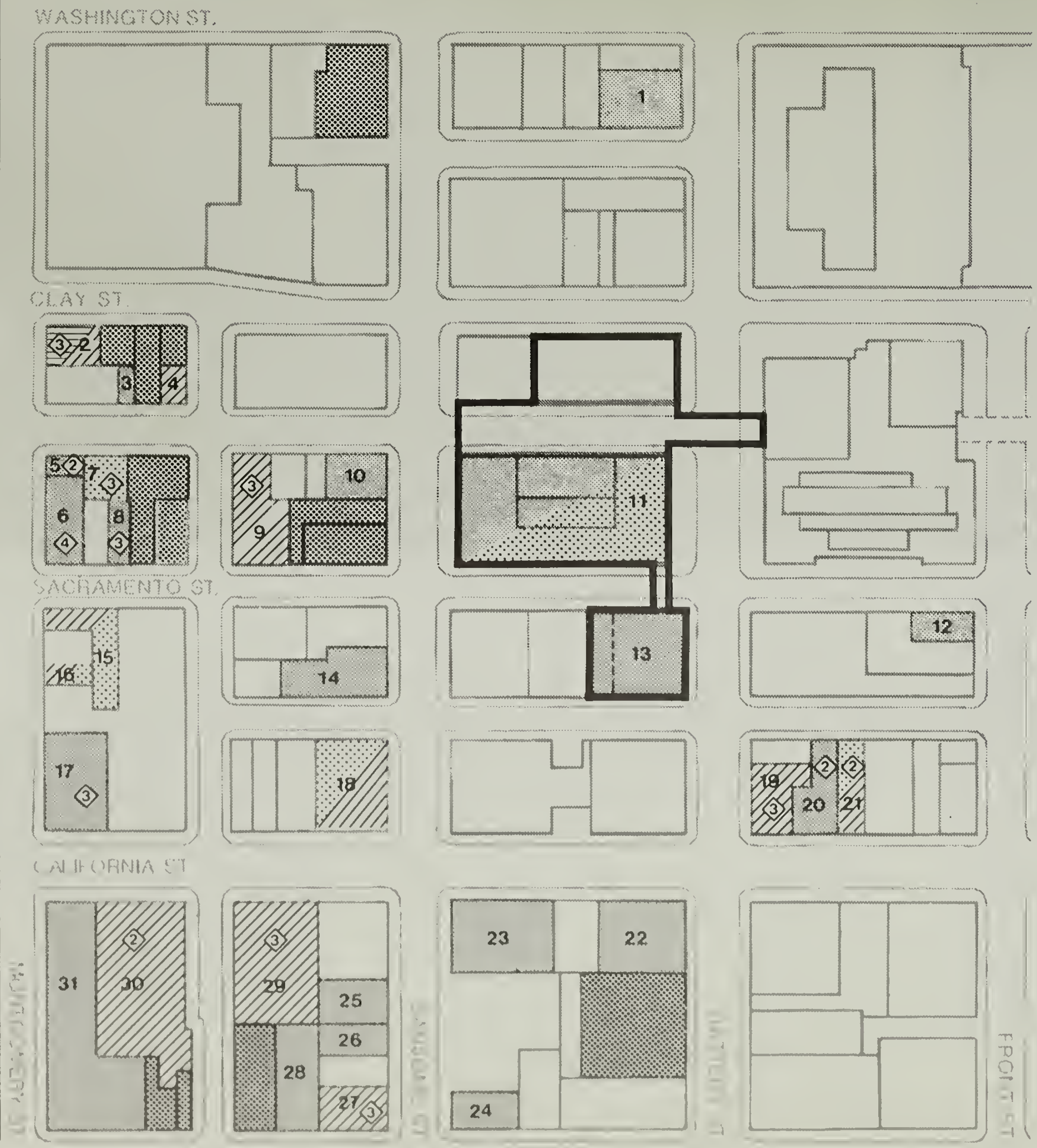


FIGURE 16

HERITAGE RATINGS

- "A" RATED ▨
- "B" RATED ▩
- "C" RATED ▦
- CITY LANDMARK ░
- NATIONAL REGISTER OF HISTORIC PLACES ▤
- DCP RATINGS ④
- PROJECT SITE ━

		BUILDING NO.
BURROUGHS BLDG.	447 BATTERY	1
BANK OF ITALY	560 MONTGOMERY	2
DON NUNZIO'S	564 COMMERCIAL	3
ZOTT'S	554 COMMERCIAL	4
PAOLI'S	520 MONTGOMERY	5
AMERICAN ASIAN BANK	500 MONTGOMERY	6
PG&E STATION J	569 COMMERCIAL	7
PAOLI'S ANNEX	568 SACRAMENTO	8
PG&E STATION J	530 SACRAMENTO	9
FUGAZI BLDG.	415 SANSOME	10
FEDERAL RESERVE BANK	400 SANSOME	11
DE BERNARDI & CO.	51 FRONT	12
EASTMAN KODAK BLDG.	241 BATTERY	13
SECURITY BLDG.	343 SANSOME	14
ITALIAN AMERICAN BK.	460 MONTGOMERY	15
A. BOREL & CO.	440 MONTGOMERY	16
KOHL BLDG.	400 MONTGOMERY	17
BANK OF CALIFORNIA	400 CALIFORNIA	18
FIDELITY BLDG.	260 CALIFORNIA	19
WELCH BLDG.	244 CALIFORNIA	20
BUICH BLDG.	240 CALIFORNIA	21
ROBERT DOLLAR BLDG.	301 CALIFORNIA	22
J. HAROLD DOLLAR BLDG.	341 CALIFORNIA	23
AMERICAN INTERNATIONAL	200 SANSOME	24
FIREMAN'S FUND ANNEX	233 SANSOME	25
T.C. KIECYLFF	232 SANSOME	26
ROYAL INSURANCE CO.	201 SANSOME	27
ORIENT BLDG.	332 PINE	28
INSURANCE EXCHANGE	433 CALIFORNIA	29
MERCHANT'S EXCHANGE	465 CALIFORNIA	30
OLD BANK OF AMERICA	300 MONTGOMERY	31

SOURCE EIP CORPORATION

EMBARCADERO CENTER WEST

published in 1979. See Appendix F, pages A-60 - A-61 for a discussion of its rating system.

[3] The Department of City Planning's architectural survey rating system progresses from "0" to "5", with "1" the least important in architectural or historic value. See Appendix F, pages A-60 - A-61 for a discussion of this rating system.

[4] Federal Reserve Bank of San Francisco, Determination of Eligibility for Bank Building, 400 Sansome Street (for listing on the National Register), December 1982, pages 3-8. A copy is available for review at the Department of City Planning, 450 McAllister Street, Fifth Floor, San Francisco.

[5] San Francisco Department of City Planning, Final EIR: Federal Reserve Bank of San Francisco, EE78.207, certified June 14, 1979, page 1.

[6] The material in this section is from the Department of the Interior, National Park Service, Ineligibility Determination for Kodak Building, (for listing in the National Register), December 21, 1982, pages 2-5. A copy of this document is available for review at the Department of City Planning, 450 McAllister Street, Fifth Floor, San Francisco.

C. URBAN DESIGN AND VISUAL QUALITY

The project site is located in the eastern part of San Francisco's Financial District (see Figure 17, page 50 for views of the site). The Financial District is characterized by a variety of building types. The most prominent buildings are the 52-story Bank of America headquarters three blocks west of the project site at 555 California; the 48-story Transamerica building two blocks northwest of the site at Columbus and Montgomery Streets; and the 48-story 101 California building two blocks southeast of the site at California and Davis Streets. There are also one- and two-story low-rise structures in the district. The north side of Clay Street opposite Parcel 1, for example, is fronted by several two-story structures; the single-story Fugazi building fronts Sansome Street opposite the Federal Reserve Bank (Parcel 2); and the replicated facade of the two-story 280 Battery Street building at Sacramento and Battery Streets is adjacent to, and part of, the recently completed 25-story 353 Sacramento (Daon) building. The ten-story 345 Sansome Street building is located at Sacramento and Sansome Streets.

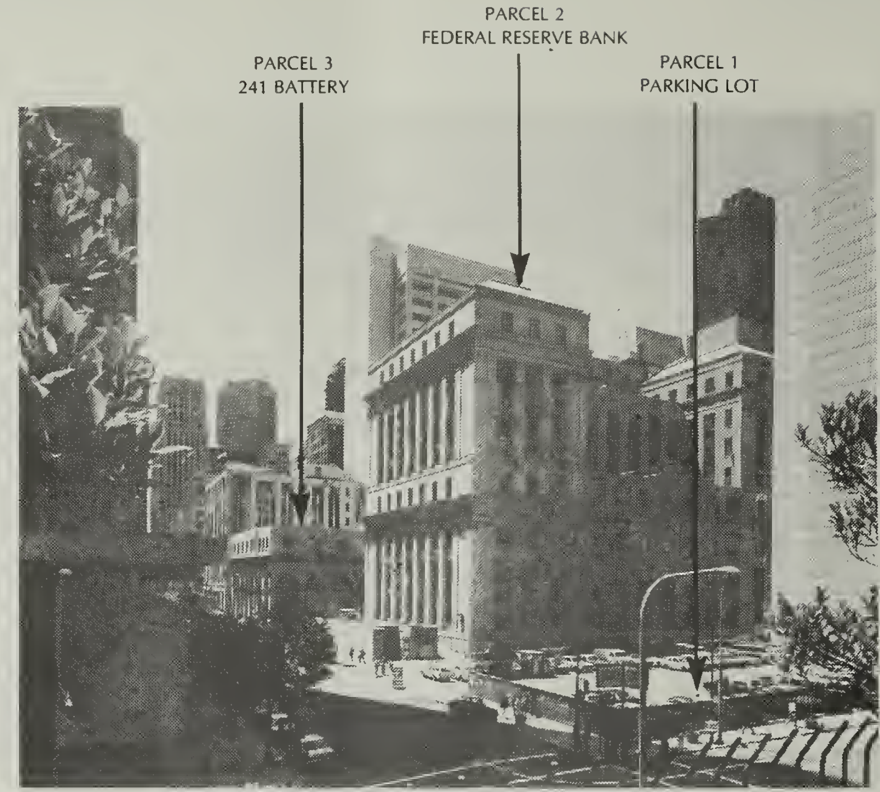
Other structures near the project site that define the eastern and northwestern portions of the Financial District include the 19-story old Transamerica building at Montgomery and Washington Streets, the new 655 Montgomery building at Washington and Montgomery Streets, the 20-story Wells Fargo building at Sansome and Clay Streets, the 18-story Bank of Canton building at Clay and Montgomery Streets and the 41-story One Embarcadero Center building at Sacramento and Battery Streets opposite the Federal Reserve Bank. The residential, 25-story high-rise structures of the Golden Gateway Center are located about two blocks northeast of the project site (see Figure 10, page 34). The Alcoa Building and its elevated Maritime Plaza are located just south of the Golden Gateway Center, directly northeast of Parcel 1 of the project site. Embarcadero Center buildings Two, Three and Four continue east of Embarcadero Center One and south of the Golden Gateway Center buildings.

Embarcadero Center is one focal point in the area. Street and podium levels for pedestrian use serve as the bases of the Embarcadero Center buildings, with open-air seating and access to retail shops and restaurants. Decorative tile paving, sculptures and container plants make up the pedestrian element of the Embarcadero Center. Regularly scheduled events, including concerts, take place at the podium level.

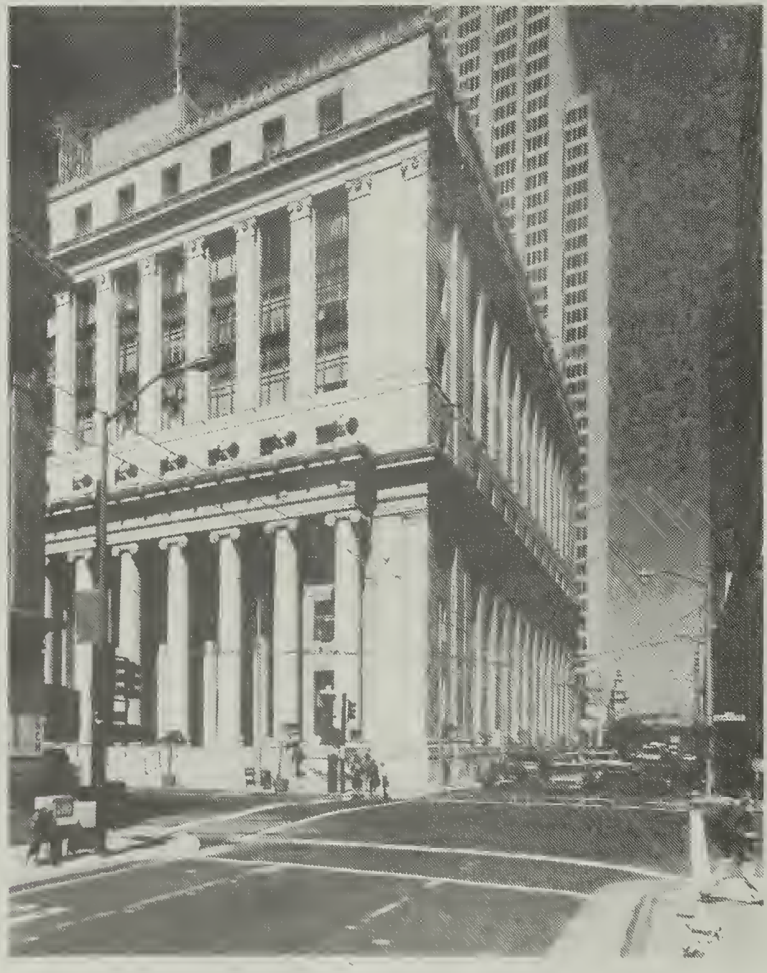
PROJECT SITE PHOTOGRAPHS

FIGURE 17

SOURCE: EIP CORPORATION



VIEW LOOKING SOUTHWEST FROM MARITIME PLAZA



VIEW EAST OF FEDERAL RESERVE BANK BUILDING
ON SACRAMENTO NEAR SANSOME STREET

Building exteriors in the Financial District include a variety of materials, such as brick, terra cotta,[1] stone, metal, concrete and glass of varying colors. Buildings constructed before 1950 generally have more surface ornamentation than more recently constructed highrises. Bases of older structures are typically one to three stories and defined by a belt course[2] on the upper floor upon which the shaft (main part of the structure) rests. The shaft typically is terminated by a cornice[3] defining the building's roofline. In contrast, post-1950 highrises have unornamented exteriors and simpler construction techniques of steel framing and sprandrels.[4]

Collectively, buildings of the Financial District form continuous streetwalls or frontages, as adjacent buildings abut each other. The continuous street frontages of high-rise structures visually define the gridiron street pattern of the Financial District to a greater degree than in other areas of downtown San Francisco. The Financial District is observed by the pedestrian as an urban environment. Parks in the area include Redwood Park at the base of the Transamerica Pyramid, Portsmouth Square on Kearny between Washington and Clay Streets, Saint Mary's Square between California and Pine near Kearny, Justin Herman Plaza at Market and The Embarcadero, Sidney Walton Park at Front and Jackson, and Maritime Plaza on the raised base of the Alcoa Building. In addition, the Embarcadero Center and Golden Gateway areas provide publicly accessible, privately maintained open space within the Financial District. There are occasional street trees. Windows at the street level that allow views into commercial spaces are the major elements adding visual interest and pedestrian scale to the sidewalk environment.

Pedestrian views from the project site are terminated to the south by buildings fronting Market Street, to the west by Nob Hill and to the east by the elevated roadway of the Embarcadero Freeway. The Urban Design Element of the San Francisco Comprehensive Plan designates Sacramento Street in the project vicinity as "excellent" for the quality of views.[5] A portion of the Ferry Building clock tower can be seen above the Embarcadero Freeway from Sacramento Street and the tower can be seen from Commercial Street adjacent to the Federal Reserve Bank building (see Figures 17 and 24, pages 50 and 90). Views to outlying areas from street level are largely confined to structures and architectural features of the Financial District; long-range pedestrian views from the project site are non-existent. The Bay, and East Bay and Marin County hillsides can be viewed from upper floors of buildings within the District.

A panoramic street-level view of the project site and immediate vicinity is presented in Figure 18, page 55). This figure provides a view of many of the features discussed in this section.

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[1] Terra cotta: unglazed, fired clay used for facing buildings, ornamentation, and roof and floor tile.

[2] Belt course: a horizontal band of stone or other material projecting beyond or flush with the face of a building, often molded or carved.

[3] Cornice: a horizontal molding projecting along the top of a building or a level of a building.

[4] Spandrel: in a multi-story building, a wall panel area between the top of a window on one level and the sill (base) or a window in the story above.

[5] San Francisco Department of City Planning, Urban Design Plan, adopted by Resolution 6745 of the San Francisco City Planning Commission, August 26, 1971, page 18.

streets (see Figure 19, page 58). In the
l) and Bush Street (one-way eastbound)
through the City. Similarly, Sansome
(one-way southbound), which border the
orth-south traffic corridor linking the
aterfront areas, as well as Highway 101
n the I-80 freeway include Main, Beale,
f the foregoing local streets have been
rtation Element of the City's Compre-

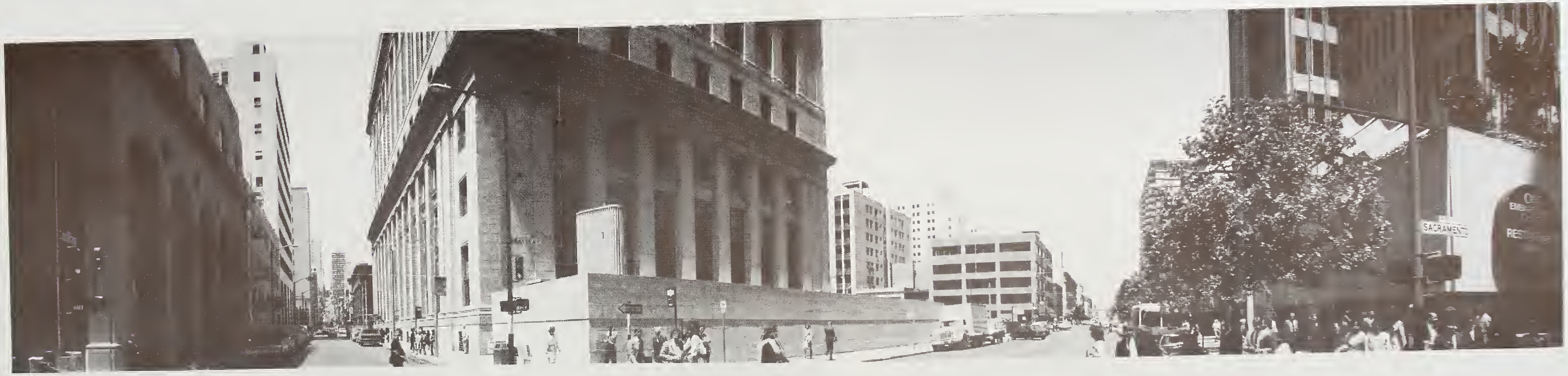
st Bay is available via I-80 (and to U.S.
Mission/Beale, Fremont between Howard
ts at Fremont, First, Third and Fourth
at Davis/Washington and Davis/Clay.
ined, with surface street connections to

ich no off-street parking is required. In
the Transportation Element of the
obile Control Area, where "a continuing
private commuter vehicle and parking

ery Streets including the site frontage
he Downtown Plan[3] and in the earlier
and Goods Movement Study.[4] A "Part-
which vehicles are prohibited at certain
expand into public rights-of-way. The
Movement Study recommends that if

FIGURE 18

SOURCE EIP CORPORATION



D. TRANSPORTATION

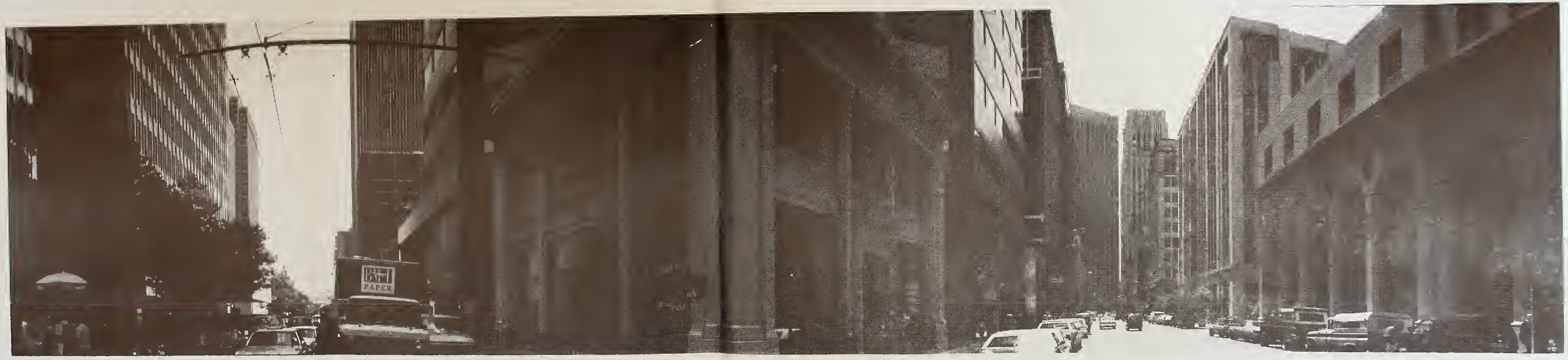
The project site is served by a network of local streets (see Figure 19, page 58). In the project vicinity, Pine Street (one-way westbound) and Bush Street (one-way eastbound) provide an important east-west traffic corridor through the City. Similarly, Sansome Street (one-way northbound) and Battery Street (one-way southbound), which border the site on the west and east, comprise a major north-south traffic corridor linking the downtown with The Embarcadero and northern waterfront areas, as well as Highway 101 to the North Bay. Major access routes to and from the I-80 freeway include Main, Beale, Fremont, First, Third and Fourth Streets. All of the foregoing local streets have been designated "major thoroughfares" in the Transportation Element of the City's Comprehensive Plan.[1]

Regional access to and from the Peninsula and East Bay is available via I-80 (and to U.S. Highway 101) by freeway ramps at Mission/Main, Mission/Beale, Fremont between Howard and Folsom, and along Harrison and Bryant Streets at Fremont, First, Third and Fourth Streets. Embarcadero Freeway (480) ramps are at Davis/Washington and Davis/Clay. Access to and from the North Bay is less well defined, with surface street connections to either The Embarcadero or Van Ness corridors.

The project site is within the C-3-0 District, in which no off-street parking is required. In addition, the site is in an area designated in the Transportation Element of the Comprehensive Plan as the Downtown Core Automobile Control Area, where "a continuing effort should be made to reduce the impact of the private commuter vehicle and parking is actively discouraged."[2]

Commercial Street between Battery and Montgomery Streets including the site frontage is designated a "Part-Time Pedestrian Street" in the Downtown Plan[3] and in the earlier San Francisco Center City Pedestrian Circulation and Goods Movement Study.[4] A "Part-Time Pedestrian Street" is defined as a street in which vehicles are prohibited at certain hours or where adjacent land uses are permitted to expand into public rights-of-way. The City Center Pedestrian Circulation and Goods Movement Study recommends that if

PANORAMA STREET-LEVEL VIEW FROM BATTERY STREET AT SACRAMENTO STREET



NOTE:

VIEWER POSITION ROTATES. FROM LEFT TO RIGHT, VIEWER IS LOOKING EAST ON SACRAMENTO STREET, SOUTH ON BATTERY STREET, WEST ON SACRAMENTO STREET, AND NORTH ON BATTERY STREET.

D. TRANSPORTATION

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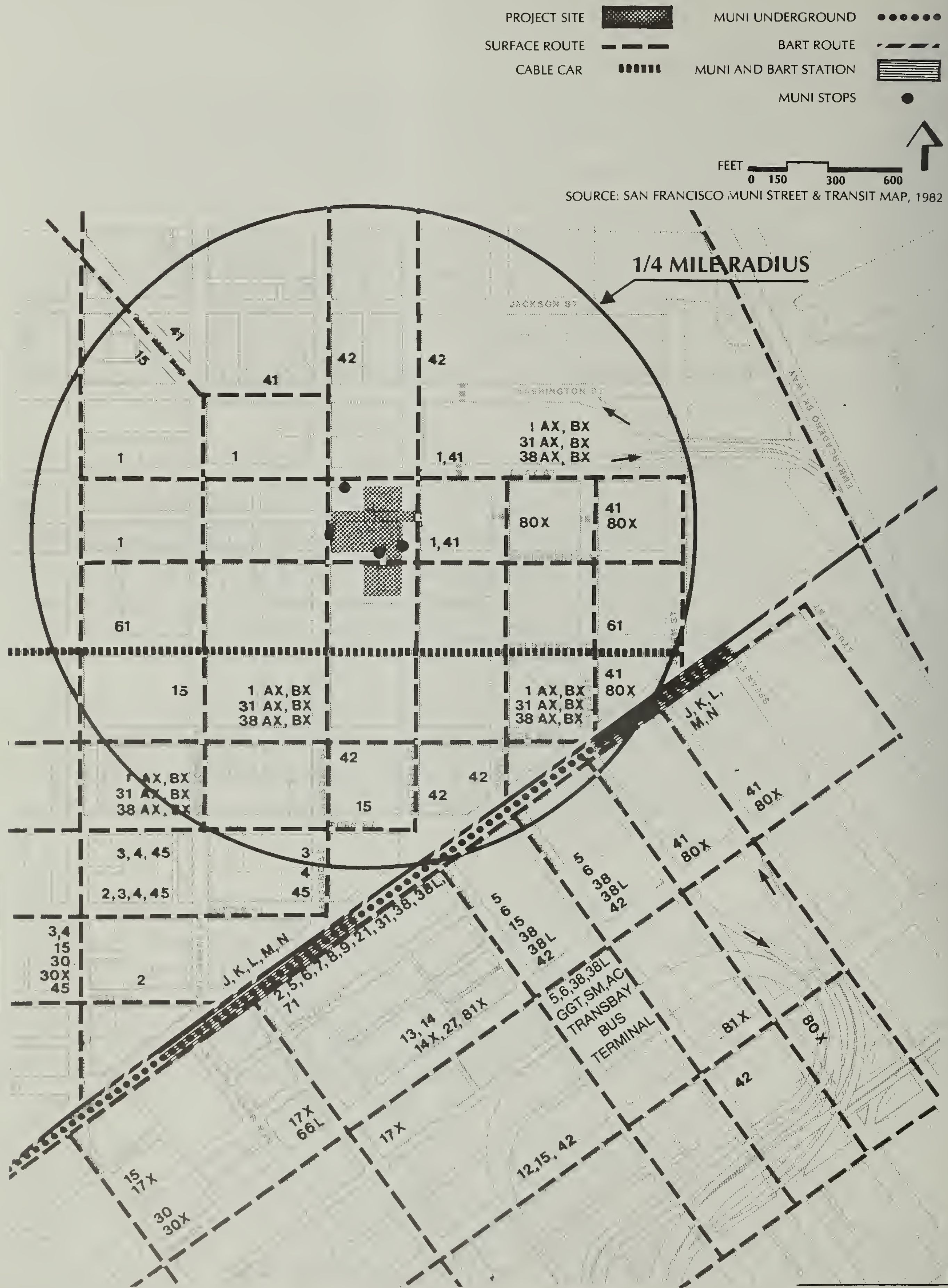
STREET NETWORK AND TRANSIT SERVICE

FIGURE 19



SOURCE: SAN FRANCISCO MUNI STREET & TRANSIT MAP, 1982 adjacent parking lots are replaced by pedestrian - attracting uses on Commercial Street between Battery and Sansome, the following should be provided: new trees on the north side, decorative striping of the roadway, and possible closure to vehicles during the lunch period.

In the project vicinity, Sansome, Battery, Sacramento, Clay, Montgomery, Kearny, California and Market Streets are designated "transit streets" in the City's Comprehensive Plan.

The project site is within a one-quarter mile (two- to three-block) walking distance of 25 Muni bus and trolley lines plus the five Muni Metro light-rail lines (via the Embarcadero Station four to five blocks southeast of the site). Muni lines running on streets adjacent to the proposed project site include the following: the 1-California and 41-Union lines stop inbound on Clay Street near Sansome; the 42 Downtown Loop stops inbound on Battery just north of Sacramento Street; the 1 and 41 stop outbound on Sacramento just west of Battery; and the 41 and 42 stop outbound on Sansome Street in front of the Federal Reserve Bank. Existing and projected Muni ridership and load factors are discussed in Chapter IV, Impacts, page 69.

The project site is within walking distance of regional transit serving the East Bay, North Bay and Peninsula. East Bay service is available by BART via Embarcadero Station and AC Transit buses at the Transbay Terminal five blocks southeast of the site. North Bay access (outbound) on Golden Gate Transit is also available at a Sansome Street bus stop adjacent to the Federal Reserve Bank or at the Transbay Terminal (buses) and the Ferry Building (ferry service). Passenger drop-off for inbound Golden Gate Transit service is available on Battery Street adjacent to the Federal Reserve Bank. Service to and from the Peninsula is via SamTrans buses (with stops along Mission Street) or by BART service to the Daly City Station. Southern Pacific service is available via a transfer from Muni lines at the Southern Pacific Depot (Fourth and Townsend Streets).

Where parking is allowed adjacent to the site on Battery and Sacramento Streets, it is in metered commercial zones (yellow zones) marked "Trucks only". On Commercial Street there are seven metered spaces on the south side of the street. Existing parking on the project site consists of 75 spaces in the surface lot on parcel 1, and 27 metered street parking spaces on the perimeter of the site (includes spaces on Commercial and Sacramento Street).

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[1] San Francisco Department of City Planning, Transportation Element, adopted by Resolution 6834 of the San Francisco City Planning Commission on April 27, 1983.

[2] Ibid., page 24.

[3] San Francisco Department of City Planning, The Downtown Plan, Proposal for Citizen Review, August 1983, page 138, revised November 1983, amended June, October and November 1984.

[4] Wilbur Smith and Associates, San Francisco Center City Pedestrian Circulation and Goods Movement Study, September 1980, page 30.

E. AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentrations of six air pollutants: ozone (O_3), carbon monoxice (CO), total suspended particulates (TSP), lead (Pb), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). On the basis of the monitoring data, the Bay Area, including San Francisco, currently is designated a non-attainment area with respect to the federal ozone and CO standards. A three-year summary of the data collected at the BAAQMD monitoring station nearest the project site (about two miles south-southeast of the site at 900 23rd St.) is shown in Appendix H, page A-63, together with the corresponding federal and/or state ambient air quality standards.

These data show occasional excesses of the CO and TSP standards. In 1983, the State one-hour average ozone standard was exceeded one time and the State 24-hour average TSP standard was exceeded four times. In 1982, the eight-hour standard for CO was exceeded once and the 24-hour TSP standard exceeded three times. The one-hour CO standard was never exceeded. (A more stringent one-hour CO standard went into effect January 15, 1983.) The only air pollutant to exceed standards in 1980 and 1981 was TSP; the 24-hour standard was exceeded six times in 1980 and once in 1981.

A CO "hotspot" monitoring program was conducted at 100 Harrison Street during the winter of 1980-81, approximately one mile east of the proposed project. The observed high eight-hour average concentration of 7.8 parts per million (ppm) does not exceed the 9 ppm state standard.[1] The high one-hour average concentration of 13 ppm does not exceed the 20 ppm state standard or the 35 ppm federal standard. In 1982, a street-level average CO maximum of 14.5 ppm was measured at the street-level monitoring station at 939 Ellis Street near Van Ness Avenue about a mile west-northwest of the proposed project. This data indicates that some locations in San Francisco, particularly those near very high traffic volumes and very congested traffic flow, may experience violations of the eight-hour CO standard during adverse meteorological conditions.

Comparisons of these data with those from other BAAQMD monitoring stations indicate that San Francisco's air quality is among the least degraded of all the developed portions of the Bay Area. Two of the three prevailing winds, westerly and northwesterly, blowing off the Pacific Ocean reduce the potential for San Francisco to receive pollutants from elsewhere in the region.

San Francisco's air quality problems (primarily CO and TSP) are due largely to pollutant emissions from within the City. CO is a non-reactive pollutant with one major source category, motor vehicles. Ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. TSP levels are relatively low near the coast, increase with distance inland, and peak in dry, sheltered valleys. The primary sources of TSP in San Francisco are demolition and construction activities, and motor vehicle travel over paved roads.

San Francisco contributes to air quality problems (primarily ozone which is a regional problem) in other parts of the Bay Area. Ozone is not emitted directly, but is produced in the atmosphere over time and distance through a complex series of photochemical reactions involving emitted hydrocarbons (HC) and nitrogen oxides (NO_x) which are carried downwind as the photochemical reaction occurs. Ozone standards are exceeded most often in the Santa Clara, Livermore, and Diablo Valleys, because local topography and meteorological conditions favor the buildup of ozone and its precursors there.

In 1979, emissions from motor vehicles were the source of 94% of the CO, 36% of the hydrocarbons (HC), 7% of the TSP, and 44% of the nitrogen oxides (NO_x) in San Francisco, while power plant fuel combustion was the largest single source of sulfur oxides, about 33% of the total. These percentages are expected to apply reasonably well to current conditions.[2]

In response to the Bay Area's ozone and CO nonattainment designations, ABAG, BAAQMD, and the Metropolitan Transportation Commission (MTC) prepared and adopted the 1982 Bay Area Air Quality Plan, which establishes pollution control strategies to attain the federal ozone and CO standards by 1987 as required by federal law. These strategies were developed on the basis of detailed subregional emission inventories and projections, and mathematical models of pollutant behavior, and consist of stationary and mobile source emission controls and transportation improvements. The BAAQMD, MTC, and California Bureau of Automotive Repair have primary responsibility for implementation of these strategies.

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[1] Association of Bay Area Governments, AQMP Tech Memo 40, "Results of the 1980/1981 Hotspot Monitoring Program for Carbon Monoxide," Berkeley, California, January 1982.

[2] Bay Area Air Quality Management District, Base Year 1979 Emissions Inventory, Summary Report (Revised), San Francisco, California, July 1, 1982.

[3] Association of Bay Area Governments (ABAG), BAAQMD and MTC, 1982 Bay Area Air Quality Plan, Berkeley, California, December 1982.

F. EMPLOYMENT, HOUSING AND FISCAL FACTORS

1. Employment

Active uses on the project site include 22,000 gross square feet of office space at 435 Sacramento Street and 15,450 gross square feet of parking area in a surface parking lot on Parcel 1. These uses generate one parking job on Parcel 1 and 62 office jobs in the 435 Sacramento Street building.[1] The site also includes 193,000 square feet of vacant, former office space: 188,000 gsf in the Federal Reserve Building and 5,000 gsf in the 241 Battery Street building. (See Section III.B., Architectural Resources, page 43, for a discussion of the history of the site.)

2. San Francisco and Regional Office Space

a. Existing Office Space in San Francisco

The project site is located north of Market Street in the San Francisco financial district. San Francisco is the major office center in the Bay Area, with approximately 60.6 million gross square feet of office space at the end of 1982.[2] The C-3 District had 55.3 million square feet of office space in 1981 and about 62.1 million square feet of office space in 1984.[3] Historical data indicate that office space was added at average rates of 1.5 million square feet per year during the 1970s and 2.4 million square feet per year from 1980 through 1982.[2]

b. Vacancy Rates and Commercial Rents

On the basis of a May 1984 survey of 290 office buildings, the San Francisco Buildings Owners and Managers Asociation (BOMA) reported a citywide vacancy rate of 7.0%, a decrease from the 7.1% rate found in the October 1983 BOMA survey.[4] According to a September 30, 1984 Coldwell Banker survey, the vacancy rate in downtown San Francisco office buildings (new, existing and major renovations) was 9.0%, an increase from the 5.9% reported in the December 1983 Coldwell Banker survey. The current 9.0% vacancy rate is the fifth lowest of the 28 major downtown financial districts in the United States surveyed by Coldwell Banker. For comparison, as of September 1984, the vacancy rate was 14.2% nationally; 10.1% in Chicago; 7.1% in downtown Manhattan; and 15.3% in Dallas.[5]

There has been a concurrent demand for and development of office space elsewhere in the Bay Area. Some businesses have moved their clerical, support and production departments to outlying areas while maintaining headquarters and main branch offices in San Francisco. In particular, the City of Oakland, and San Mateo and Contra Costa counties are experiencing increased demand for office space. For example, about 17 million square feet of office space is proposed or under construction in San Mateo County.[6] This includes projects in various stages of public review, not all of which may be approved or built.

As a result of high demand and increasing operating costs in San Francisco, annual rents for office space in the downtown financial district increased steadily throughout the 1970s to approximately $30 per square foot in 1982.[7] New buildings are able to charge the highest rents, while office rents in older buildings south of Market are less expensive, averaging between $15 and $25 per square foot.[8] Rents for new office space in San Francisco's financial district ($28 to $40) are about 40-60% higher than commercial rents in Oakland ($20 to $25 per square foot); the Peninsula ($18 to $22 per square foot); and Walnut Creek ($22 to $30 per square foot). Should vacancy rates rise, the pressure for higher commercial office rents would be expected to decline in San Francisco. A rising vacancy rate could lower rents and increase lessees' choice of size, layout and location of office space.

Approximately 19.0 million square feet of net new office space is currently proposed or under construction, but not occupied, in San Francisco. Of this space, 8.7 million is under formal review, 4.8 million has been approved and an additional 5.5 million is under construction or newly constructed. Table E-1 in Appendix E, page A-49, shows the specific projects from which these numbers are taken.

3. Housing Supply

There were about 320,230 housing units in San Francisco as of January 1984, according to the State Department of Finance.[9] About two-thirds of the stock is rented and one-third is owner occupied. Housing production in the City (as measured by building permits issued) has heavily favored multi-family housing. Between 1978 and 1980, 84% to 87% of building permits were for multi-family housing; in 1981 the share of permits for multi-family housing increased to 95%.[10]

Housing demand in San Francisco has intensified over the past decade. The number of households increased from 1970 to 1980 by 1.3%, despite a 5.6% decrease in total population. This reflects a decrease in the average size of San Francisco households from 2.34 persons to 2.19 persons.[11] Although the number of housing units in the City increased by 1.9% over this period, by 1980 the vacancy rate, which indicates the balance between housing supply and demand, remained low at 0.56% for owner-occupied housing and 2.68% for rental housing.[12]

The percentage of San Francisco's employed population that works in the City decreased from more than 80% in 1970 to 75% in 1980. However, the number of San Francisco residents working in the Financial, Insurance and Real Estate (FIRE) sector increased during this period by more than 6,000. This represents about 33% of the total increase for jobs in this sector of the City.[13] The Department of City Planning assumes that as many as 40% of office workers would desire to move to San Francisco upon finding work in the City.[14]

The average market value of a single-family house in the Bay Area was about $143,000 in 1983; the 1983 average in San Francisco was about $156,000. San Francisco experienced the greatest increase in average market value of all Bay Area cities over the past five years.[15] In 1980 the median contract rent was $267,[16] which in 1984 dollars would amount to more than $341.

The expansion of downtown office space is a source of pressure on San Francisco's housing demand, together with: the above-noted decrease in household size; increased land, labor and materials costs; immigration to the U.S.; high interest rates; and limited land for housing. There are also regional housing impacts. There were just over two million housing units in the nine-county Bay Area in 1980. About one-third of the units are in the East Bay (Alameda and Contra Costa counties), about one-third on the Peninsula (San Mateo and Santa Clara counties), about 16% in San Francisco, 10% in the North Bay (Marin and Sonoma counties) and 6% in Solano and Napa counties.[17]

The limited information available on housing production in Bay Area counties indicates that markets have been depressed in recent years. Regionally, single-family permits declined in 1979, 1980 and 1981. Alameda, Contra Costa, San Francisco, San Mateo and

Sonoma counties' single-family permit issuances rose from 1978 to 1979, but declined in 1980. Regional multi-family rental unit permits have declined every year between 1977 and 1981, while condominium permits increased between 1977 and 1980 and decreased in 1981.[18] The housing recovery trend in the Bay Area during the fourth quarter of 1983 showed a gain of 99% over the level reported during the fourth quarter of 1982 for total permits issued.[19]

4. Fiscal

Existing uses on the project site generate revenues from property tax, business tax, parking tax, utility users' tax, and sales tax totalling approximately $526,630.

Sales tax revenues generated on the site by the one-half percent BART sales tax are about $405. Of this total, BART receives approximately $304 directly and the remaining $101 is distributed by the Metropolitan Transportation Commission among BART, Muni and AC Transit.

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[1] Areas per City Assessor's records and EIP field check. Employment estimates based on letter from project sponsor, dated June 21, 1984.

[2] San Francisco Department of City Planning, Major Office Building Construction in San Francisco Through 1982, March 15, 1983.

[3] San Francisco Department of City Planning, Downtown Plan FEIR, EE81.3, certified October 18, 1984, pages IV.B.2 and IV.B.17.

[4] Elmer Johnson, Building Owners and Managers Association, telephone conversation, February 21, 1984. Updated November 12, 1984.

[5] Coldwell Banker, Office Vacancy Index of the United States, September 30, 1984. San Francisco vacancy rates are gathered as part pf a quarterly survey of 28 major downtown districts throughout the nation. A copy of the September 1984 survey is on file and available for public review at the Office of Environmental Review, 450 McAllister Street, Fifth Floor.

[6] Proposed Specific Plan: Bayshore Office Park and Baylands Development Area, Brisbane, California, July 1982, and Metropolitan Transportation Commission, Travel Impacts of Proposed Development on the Peninsula Along Route 101, September 9, 1982.

[7] City and County of San Francisco, Downtown Plan EIR, EE81.3, certified October 18, 1984, pages IV.B. 4-5.

[8] William Cumbelich, Senior Sales Consultant, Office Building Specialist, Coldwell Banker, telephone conversation, February 24, 1984.

[9] California Department of Finance, Population Research Unit, Population and Housing Estimates for California Cities and Counties, Summary Report E-5, April 27, 1984.

[10] ABAG, San Francisco Bay Area Housing Activity Report, No. 4, May 1982, page 21.

[11] Department of City Planning, Residence Element: A Proposal For Citizen Review, June 1982, Table 4.

[12] U.S. Bureau of the Census, 1980 Census Information, File STF 1-A, Report #4, March 1982, Tables 25 and 26.

[13] U.S. Bureau of the Census, Population Census 1970 and 1980, and County Business Patterns 1970 and 1980.

[14] San Francisco Department of City Planning, Office Housing Production Program (OHPP) Interim Guidelines, January 22, 1982.

[15] Real Estate Research Council of Northern California, Northern California Real Estate Report, Vol. 34, No. 3, 1984.

[16] City and County of San Francisco, 1980 Census Information, File STF1-A, Report #4-Housing, Table 44, March 1982. Adjusted to 1984 dollars based on a 27.9% increase in the Consumer Price Index.

[17] Real Estate Research Council of Northern California, Northern California Real Estate Report, Vol. 33, No. 1, April 1981. Updated to October 1982 per James Davis, Executive Director, telephone conversation, December 28, 1982.

[18] ABAG, San Francisco Bay Area Housing Activity Report, No. 4, May 1982.

[19] Real Estate Research Council of Northern California, Real Estate and Mortgage Finance Trends, No. 154, March 1, 1984.

IV. ENVIRONMENTAL IMPACTS

An Initial Study was prepared for the Embarcadero Center West project to identify potential environmental issues that could result from the proposed project; these issues are covered in this EIR. Certain potential environmental issues were determined to be insignificant and are therefore not addressed in this EIR. These include obtrusive light and glare; relocation; operational noise; operational air quality and odors/burning of materials; biology; geology and topography; water; hazards; utilities and public services; and cultural resources. A copy of the Final Initial Study is attached to this report as Appendix A, page A-1.

Some of the matters covered in the EIR are not physical environmental impacts as defined under the California Environmental Quality Act (CEQA). They are included in the EIR for informational purposes only.

A. LAND USE AND ZONING

1. Land Use

The project, a mixed-use office, hotel and retail development, would increase the intensity of uses on the project site. The Federal Reserve Bank building would be remodeled for office and retail use and linked to two new structures, to the north and south, by pedestrian bridges and walkways. A pedestrian bridge over Battery Street would link Embarcadero Center West to Embarcadero Center One, continuing the elevated pedestrian system of the Embarcadero Center. The project is intended as the western part of the Embarcadero Center development. The proposed Embarcadero Center West would include new construction on a surface parking lot, adaptive reuse of the vacant Federal Reserve Bank building and demolition of the vacant office/warehouse building at 241 Battery. The top two floors within the 435 Sacramento Street structure would be incorporated into the project; the three levels of parking would remain and are not part of the project.

The total project including office, hotel, retail, mechanical, service, parking and public open space would contain approximately 1,110,500 gsf. Deducting existing on-site office space in the 435 Sacramento building (22,000 gsf), the Embarcadero Center West project would include approximately 589,000 gsf of net new and redeveloped office space, 254,000 gsf of hotel space, 24,315 gsf of retail space and 35,185 gsf of restaurant space. A total of 193,000 gsf (188,000 gsf in the Federal Reserve Bank and 5,000 gsf at 241 Battery Street) was formerly office space and is currently vacant, having been vacated in 1982 when the Federal Reserve moved its operations to Market Street.

2. Zoning

The project would comply with the 400-foot height limit for the portion of the site proposed for the hotel and 450-foot limit for the site of the proposed office highrise (1979 Planning Code). The hotel would be 250 feet high and the office highrise would be 400 feet high.

The hotel would be 164 feet long, 6 feet less than the maximum permitted 170 feet, and its maximum diagonal dimension of 189 feet would be 11 feet less than the maximum permitted diagonal dimension of 200 feet (both applicable above a height of 150 feet). Subject to the same maximum length and diagonal dimensions, the office highrise would also comply with bulk limitations, with a maximum length of 125 feet (45 feet less than the maximum allowable length) and a maximum diagonal dimension of 194 feet (6 feet less than the maximum allowable diagonal).

The project's total gross office, hotel, and retail area of 924,500 gsf would yield a FAR of 13:1, less than the 14:1 maximum permitted in the C-3-O district (1979 Planning Code, pre-Downtown Plan). This total includes the 902,500 gsf of new construction and redevelopment of existing space and 22,000 gsf of existing office space to be retained. Table 4, page 71, sets forth height, bulk and FAR limits for the site. For a discussion of the project in relation to the Downtown Plan guidelines for the site, see Table 4, and the Downtown Plan alternative, page 208. Downtown Plan requirements are also set forth by topic in this chapter.

TABLE 4

COMPARISON OF PROPOSED PROJECT WITH THE DOWNTOWN PLAN AND PLANNING CODE, 1979, PRE-DOWNTOWN PLAN

Major Development Controls Pertaining To Project Site	Current Controls	Proposed Project	Requirements in the Downtown Plan	Alternative 3 Downtown Plan[1]
BASE FAR	14:1	13:1	10:1	10:1[2]
HEIGHT LIMITS				
Parcel 1	400'	250' (Hotel)	250'	238"
Parcel 2	400'	160' (Fed. Reserve Building)	75'[3]	160'
Parcel 3	450'	400' (Office Building)	400'	310'
BULK				
Parcels 1 and 3[3]	Up to 150': full site coverage Above 150': max. length = 170; max. diagonal = 200'	Parcel 1: Max Length = 145' Max diag = 166' (above 150') Parcel 3: Max length = 136' Max diag = 176' (above 150')	"S" Bulk controls (see below)	"S" Bulk controls (see below)
"S" BULK				
Base	Not required	Not required Parcels 1 and 3 = 36'	Full site coverage to maximum height of 1.25 x width widest abutting street. Parcel 1 = 90'; Parcel 3 = 75'.	Same as proposed project.
Lower Tower	Not required	Parcel 1: Max width=94' Max avg diag = 161' max avg flr area = 12,500	Maximum width = 160' max avg diag = 200' max avg flr area = 20,000 gsf	Parcel 1: Max width = 95' max. avg diag = 189' max avg flr area = 10,000 gsf
		Parcel 3: max width=125' max avg diag = 194' max avg flr area = 17,000 gsf	Maximum width = 160' max avg diag = 200' max avg flr area = 20,000 gsf	Parcel 3: same as proposed project

(table continues)

TABLE 4 (continued)

Major Development Controls Pertaining To Project Site	Current Controls	Proposed Project	Requirements in the Downtown Plan	Alternative 3 Downtown Plan[1]
Upper Tower (above 160')	Not required	Parcel 1 max width=94' max avg diag = 166' max avg floor area = 10,000 gsf Parcel 3 max width=125' max. avg diag = 176' max avg flr area = 11,000 gsf	Maximum width = 140' max average diagonal = 160' max floor area = 17,000 gsf max avg floor area = 12,000 gsf	Parcel 1: max width=95' max avg diag = 160' max avg flr area = 9,375 gsf Parcel 3: same as proposed project
SEPARATION OF TOWERS	Not required	None.	Minimum 15': setback between 165'-300'; above 300' setback increases to maximum of 35"; exceptions allowed per proposed PC Sec. 132.1(c)(3)	Alternative would conform to Downtown Plan
GROUND FLOOR USES[4]	Not required	45,000 gsf. 33,750 gsf would be excluded from FAR calculation under Downtown Plan guidelines.	Required; excluded from alowable FAR in C-3-O District. Up to 75% of interior floor area and ground level open space permitted for exclusion is allowed.	29,200 gsf would be excluded from FAR calculation.
INCORPORATION OF ART	Not required	Art would be incorporated equal to or in excess of 1.5%	Art equal to at least 1.5% of hard construction costs	Art would be incorporated to meet criteria
SUNLIGHT ACCESS	Not required	The project would cast shadows on portions of some adjacent sidewalks during all times of the year. At 3 p.m. on Sept. 21 and March 21, shadows would be cast on a small portion of Embarcadero One Plaza and Maritime Plaza. Project is exempt from Proposition K.	Criteria based on solar fan, for the project site, height and bulk and time, duration and location of shadow. Critical times are 8 a.m. to 4 p.m. PST, March 21/September 21. Proposition K governs Maritime Plaza open space.	Shadows cast from Parcels 1 and 3 would be proportionally decreased; alternative would conform to Downtown Plan, and would be exempt from Proposition K.
RECREATION/OPEN SPACE	Not required	19,000 gsf of publicly-accessible open space, including 11,000 gsf of Commercial Street improvements. Project would conform to Downtown Plan.	1 sq. ft. open space per 50 sq. ft. of gross floor area; 17,815 gsf for project.	19,000 gsf of publicly accessible open space; alternative would conform to Downtown Plan.

(table continues)

TABLE 4 (continued)

Major Development Controls Pertaining To Project Site	Current Controls	Proposed Project	Requirements in the Downtown Plan	Alternative 3 Downtown Plan[1]
WIND	No criteria	Winds in excess of 11 mph are predicted for southwest winds along a portion of the sidewalk on the south side of Halleck Street between Battery and Sansome Streets	Building form must not create wind speeds in excess of 7 mph in areas where people will be sitting and 11 mph in areas where people will be walking,[5] except under specific circumstances.	Alternative would be designed to conform to Downtown Plan requirements.[6]
OFF-STREET LOADING	10 spaces	10 spaces	2 spaces for hotel 6 spaces for office 2 spaces for retail and restaurant (10 spaces required)[7]	10 spaces
PARKING	Not required	42 spaces (short-term)	Discourage new long-term parking in downtown	42 spaces (short-term)

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[1] See Section VII., Alternatives, page 202.

[2] The Downtown Plan would exclude ground-floor retail, building service and internal circulation areas up to 75% of the interior floor area and ground level open space from FAR; area in excess of 10:1 in Alternative 3 reflects this exclusion of ground-floor retail uses per the Downtown Plan.

[3] Parcel 2 (Federal Reserve Bank) exceeds current bulk requirements. The bank building would be located in a 75-X bulk district under the Downtown Plan, and would not be subject to bulk restrictions. Pursuant to Section 188 of the Planning Code, enlargements, alterations and reconstruction of a non-complying structure is permitted provided there is no increase in any discrepancy between existing conditions and the Code's required standard for new construction. Parcel 2 would exceed proposed height requirements of the Downtown Plan, because of its 160 foot height. It would be considered a non-complying structure under the proposed height requirements. A portico/addition is proposed for Parcel 2; otherwise the current building envelope would remain as is.

[4] The Downtown Plan restricts ground floor uses in the C-3-0 district to retail; building circulation; open space feature; pedestrian circulation; cultural, recreational, religious, social and educational facilities available to the general public; and building service. All of these uses would be excluded from calculations of allowable gross floor area up to 75% of the interior floor and ground level open space area.

[5] San Francisco Department of City Planning, Proposed Amendments to the City Planning Code to Implement the Downtown Plan, Section 148, November 29, 1984, page 23.

[6] Don Ballanti, Certified Consulting Meteorologist, oral communications, June 22, 1984.

[7] Calculations for off-street loading, per Planning Code Section 152.5, November 29, 1984: Hotel (2 spaces for 201,000-500,000 gsf); Office (0.1 space per 10,000 gsf of office space); and Retail and Restaurant (1 space per 25,000 gsf).

Source: San Francisco City Planning Code; The Downtown Plan, Proposal for Citizen Review, August 1983, revised November 1983, amended June, October, and November 1984; Embarcadero Center Ltd., John Portman and Associates; Environmental Impact Planning Corp.

3. Relationship of the Project to the Master Plan

The Commerce and Industry and Land Use Elements of the San Francisco Comprehensive Plan contain statements of goals, objectives and policies that relate to the Embarcadero Center West project. From the Commerce and Industry Element, the following objectives are applicable.[1]

> Objective 6: "Maintain and improve San Francisco's position as a prime location for financial, administrative, corporate and professional activity." (page 24)
>
> Objective 6, Policy 2: "Guide location of office development to maintain a compact downtown core so as to minimize displacement of other viable uses." (page 25)
>
> Objective 6, Policy 3: "Assure that downtown development is compatible with the design and character of San Francisco." (page 25)
>
> Objective 7, Policy 1: "Assure a strong interrelationship between downtown specialty shopping, cultural entertainment and visitor accommodation activities." (page 28)

Construction of 589,000 gross square feet of net new office space, and 24,315 gross square feet of net new retail space, and 35,185 gsf of net new restaurant space proposed for the project is intended to meet needs of San Francisco's expanding financial, insurance and real estate (FIRE) sector, as well as administrative activities. This would respond to Objective 6, above. Regarding Objective 6, Policy 2, the project would not displace uses except for a parking lot, as all site buildings are vacant (except for 435 Sansome, which is occupied and would be retained in its current use). There would be an increase of 59,500 gsf of retail and restaurant space on the site.

Regarding Objective 6, Policy 3, the project would spread the development form of the Embarcadero Center farther west. This distinctive development form has generated a successful combination of office and retail activity. It is different in character and form from surrounding developments in the Financial District in its configuration of retail uses recessed from the street, podium-level commercial development and open space with office towers above.

Decision makers would need to consider the project in relation to existing development including both existing low-rise traditional Financial District development and development forms like the existing Embarcadero Center.

The Embarcadero and Golden Gateway areas are specifically mentioned in Objective 7, Policy 1, discussion in the Commerce and Industry Element as areas in which linkages between office development, visitor facilities and parking should be protected. The hotel included in the project is intended to be such a link. There is no existing retail use on the project site. The project would include 24,315 gross square feet of retail space intended for use by people who live and work downtown, and by tourists and visitors using the hotel.

4. The Downtown Plan

In August 1983, the Department of City Planning published the Downtown Plan, Proposal for Citizen Review, revised November, 1983, amended in June, October, and November 1984. The Plan contains comprehensive changes in controls of the scale, intensity and location of growth in downtown San Francisco; architectural preservation; open space; sunlight access; wind criteria; and transportation.

The relationship of the project to major provisions of the Plan is discussed below and by appropriate topic in this chapter, and summarized in Table 4. (See Section VII, Alternatives, page 202, for an alternative conforming to the Plan.)

The project would be exempted from the provisions of the Downtown Plan due to the filing of a building permit application (Application Nos. 8305676, 8305675, and 8305677) on June 15, 1983, before the Downtown Plan was published.[2] The Amended Code exempts:

> "integrated development projects involving the substantial rehabilitation and adaptive reuse of buildings designated as landmarks by the Board of Supervisors pursuant to Article 10 of this Code and for which a building permit application and an application for environmental review has been filed with the Department of City Planning prior to October 11, 1984. "Integrated development" means a project involving several buildings which are integrated with rehabilitation of a landmark designated pursuant to Article 10 of this Code and which are located on sites that, but for separations by a street or alley, are adjacent to such landmark."

The project would conform to Downtown Plan regulations for building height, open space provision, sunlight access, incorporation of artwork, and off-street loading and parking. The project would not conform with Downtown Plan regulations for bulk, FAR, wind impacts, and upper tower volume control.

The Downtown Plan changes the base FAR for the C-3-O district, including the project site, from 14:1 to 10:1, and excludes ground-floor retail, building service and internal circulation areas from the FAR calculation, up to 75% of the interior building and groundfloor open space area. Development greater than the base 10:1 FAR is allowable through transfer of development rights (TDR) from sites with undeveloped potential floor area within the same zoning district, including architecturally significant buildings or new parks or open space. The increased floor area on the site receiving TDRs, however, may not exceed the Plan's height, bulk and other controls for the receiver site. TDR is not permitted during the period of interim controls but is provided for in the permanent controls approved by the Planning Commission, November 29, 1984.

The project's total gross floor area, at a 13:1 FAR (924,500 gsf), would be about 213,060 gsf greater than the base 711,440 gsf allowable under the Plan (10:1 FAR on the 71,144-square-foot site). As calculated under the Downtown Plan, the project would have a FAR of 12.5:1, approximately 179,300 gsf greater than the allowable base FAR under the Plan.

The proposed hotel would be in a 250 height and bulk district, under the Downtown Plan. At 250 feet, the hotel would be within the height limit. The proposed office highrise would be in a Downtown Plan 400-S height and bulk district. At 400 feet, the office structure would conform to the proposed height limit. The "S" bulk designation controls building dimensions, floor sizes and bulk through Downtown Plan Bulk Control Zone Charts A and B (page 86 of the Plan). Essentially, these require setbacks, smaller floor sizes and slimmer building profiles as building height increases. For the proposed 250- and 400-foot buildings on the project site, the controls require (1) a base zone, related to the width of the widest abutting street (in this case, Clay Street (72 feet) for the hotel and Battery Street (60 feet) for the office highrise) delineated by (2) a setback, cornice or other architectural feature, and (3) a lower tower zone that could be developed out to the lot lines (if there were no setbacks from the base). Additionally, an upper tower zone would begin at a height of 160 feet for the hotel and 250 feet for the office highrise; average floor area in this zone could not exceed 12,000 square feet, and building volume would be required to be reduced by about 20%, compared to a straight vertical extension of the lower tower. The hotel on Parcel 1 would require a 5% reduction in volume to conform to Bulk Control Chart B, while the office tower on Parcel 3 would require a 6% volume reduction to conform to the same chart.

Optional upper tower extensions are permitted, to allow for flexibility of design and to encourage slender and more sculptured building tops. Option 1 allows a 10% increase in permitted building height, with further reduction of upper tower volume, controlled by Bulk Control Zone Chart B. Option II permits mechanical equipment, decorative roof construction, or usable penthouse space above the height limit, within the volume formed by planes sloping inward from the outer edge of the roof at a 50-degree angle with the horizontal. The Plan allows steeples, pylons or other features with a cross-sectional area of less than 100 square feet, with additional height of up to 75 feet. The Plan requires that new buildings have distinctive building tops, such as cornices, parapets, hip roofs or domes. The proposed structures on Parcels 1 and 3 are designed with stepbacks that would articulate building facades at upper levels, resulting in more sculptured building tops. The office tower on Parcel 3 would have additional facade treatment on the building top that would respond to the Plan.

The Plan requires separation of towers: a minimum of 15 feet between 165-300 feet, and up to 35 feet above 300 feet. The project would not provide tower separation; the project could be exempted under Section 132.1(c) of the Planning Code.

The Plan requires usable public indoor or outdoor open space as part of new downtown development. In the C-3-O district, a 1:50 ratio of open space to building space is required. The Plan allows the open space requirement of new buildings to be met off-site by the project sponsor by development, or funding of development, of open space on public land. Applied to the project, the 1:50 ratio would yield a 17,815 gsf foot requirement. Approximately 19,000 gsf of publicly accessible open space, or about 1,185 gsf more than required, is proposed as part of the project. Publicly accessible open space would include 11,000 gsf of Commercial Street between Battery and Sansome Streets, which would be converted into a landscaped pedestrian area. The Plan has identified that segment of Commercial Street between Battery and Sansome Streets as a "Part-time pedestrian" Street, where the street would be devoted exclusively to pedestrians between 11 a.m. and 2 p.m. during weekdays.[3] Thus, the project would respond to the Plan.

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[1] San Francisco Department of City Planning, Commerce and Industry Element, adopted by the City Planning Commission, Resolution 8001, June 29, 1978, pages 24-26.

[2] San Francisco Department of City Planning, Amendments to the City Planning Code to Implement the Downtown Plan, Section 175.2(a)(2)(A), November 29, 1984, page 34.

[3] San Francisco Department of City Planning, The Downtown Plan, Proposal for Citizen Review, August 1983, revised November, 1983, and amended June, October, and November, 1984, page 126.

B. ARCHITECTURAL RESOURCES

The proposed project would include adaptive reuse of the Federal Reserve Bank building and demolition of the 241 Battery Street (Eastman Kodak) building. Both buildings are rated "B" by the Foundation for San Francisco's Architectural Heritage. "B"-rated buildings are defined by Heritage as buildings of major importance, having individual importance by virtue of architectural, historical and environmental criteria (see Section III.B., pages 43-48, and Appendix F).

Both buildings are also on the City's List of Architecturally and/or Historically Significant buildings in the Downtown. This list, adopted by City Planning Commission, generally includes buildings rated "A" or "B" by Heritage. The purpose of the list is to advise developers and building owners of the importance the City places upon the buildings' conservation and to recognize the intent of the Director of Planning to recommend disapproval of proposals to demolish a building, or buildings, on the list.

The Federal Reserve Bank building, City Landmark No. 158, has been determined to be eligible for listing on the National Register of Historic Places.[1] The 241 Battery building has been determined to be ineligible for listing.[2] Both determinations were reviewed and concurred with by the State Historic Preservation Officer.[3]

On October 31, 1982, the Federal Reserve Bank entered into a Rehabilitation Agreement (with Heritage and the project sponsor) calling for the protection and careful rehabilitation of the bank building as an architecturally significant structure. The agreement makes several provisions to ensure that the Federal Reserve Bank building be preserved as a City landmark. Heritage is to "meet and consult" with the project sponsor "with regard to the development and submission of a rehabilitation plan for the Federal Reserve Bank building." In addition, the sponsor is to submit the rehabilitation plan for the bank building in accordance with the Secretary of the Interior's historic preservation standards "prior to undertaking any construction or rehabilitation work on any of the Bank properties." Heritage agreed that "it will not object to any proposal" by the sponsor but will instead "rely upon the Secretary's interpretation of the Secretary's standards." Further, Heritage agreed to support those portions of the rehabilitation plan with which it concurs. The Rehabilitation Agreement stipulates that before any construction or rehabilitation work begins on the bank building, the project sponsor must comply with the following:

- the rehabilitation plan for the bank building must be approved by the Secretary of the Interior as meeting the Secretary's standards, or
- if the Secretary rejects the rehabilitation plan, the project sponsor may enter into a written agreement with Heritage that describes a rehabilitation plan acceptable to both parties.

Rehabilitation is to include the preservation of the following interior portions of the bank building:

- the lobby, subject to modification to allow for proper vertical circulation within the bank building with respect to both elevator and stairwell installations
- the banking hall, subject to some reduction in length
- the murals in the lobby.

Construction of the proposed project would include adaptive reuse of the Federal Reserve Bank building, which would conform to applicable building and safety codes. Rehabilitation is to include the preservation of the present exterior of the bank building, with the following exceptions and additions:

- The recessed portion of the upper floors onthe Commercial Street side of the bank building may be built out to the predominant roof and sidewall lines.
- The motor security platform adjacent to the Battery Street side of the bank building is to be removed and replaced with a two-story structure containing primarily retail uses. It is to be designed to link with the two newly constructed project structures to the north and south of the building and the existing Embarcadero Center development via pedestrian bridges and walkways.

The project would not include build out of the recessed portion of the upper floors on the Commercial Street side, as allowed under the agreement.

The architectural firm of Kaplan McLaughlin and Diaz (KMD) has been retained as a subcontractor to John Portman Associates to rehabilitate the Federal Reserve Bank building, and would be responsible for design development and construction supervision.

KMD plans to restructure the building to meet current seismic standards as required by the Building Code, while keeping intact the original facade and exterior details of the building (for example, any replacement of windows or other elements would replicate existing ones). A new portico would be constructed on the Battery Street elevation that would duplicate in style and details the existing entrance portico on Sansome. See Figures 2, 15, and 18, pages 19, 44, and 55, for figures of the proposed Battery Street elevation, the existing Sansome Street portico, and the existing Battery Street view. The proposed portico/addition is shown on Figure 20, page 82.

The project would demolish the 241 Battery Street (Eastman Kodak) building, which is rated "B" by Heritage and determined to be ineligible for listing on the National Register of Historic Places. In its determination of ineligibility, the National Park Service (keeper of the National Register of Historic Places) found that the architectural firm of Bliss and Faville is "clearly important in the historic development of San Francisco," and that the building is a less significant example of their work in comparison to other existing buildings by the firm.[2] The Park Service further stated that the building's integrity "has been diminished by the addition of a top story not in keeping with its original design" and "the building has not been shown to have important historical associations."

Because of the structure's "B" rating, demolition plans would require Discretionary Review by the City Planning Commission, pursuant to CPC Resolution 8600.

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[1] Department of the Interior, National Park Service, Determination of Eligibility for Bank Building, 400 Sansome Street, December 10, 1982, on file at the Department of City Planning, 450 McAllister, Fifth Floor, San Francisco.

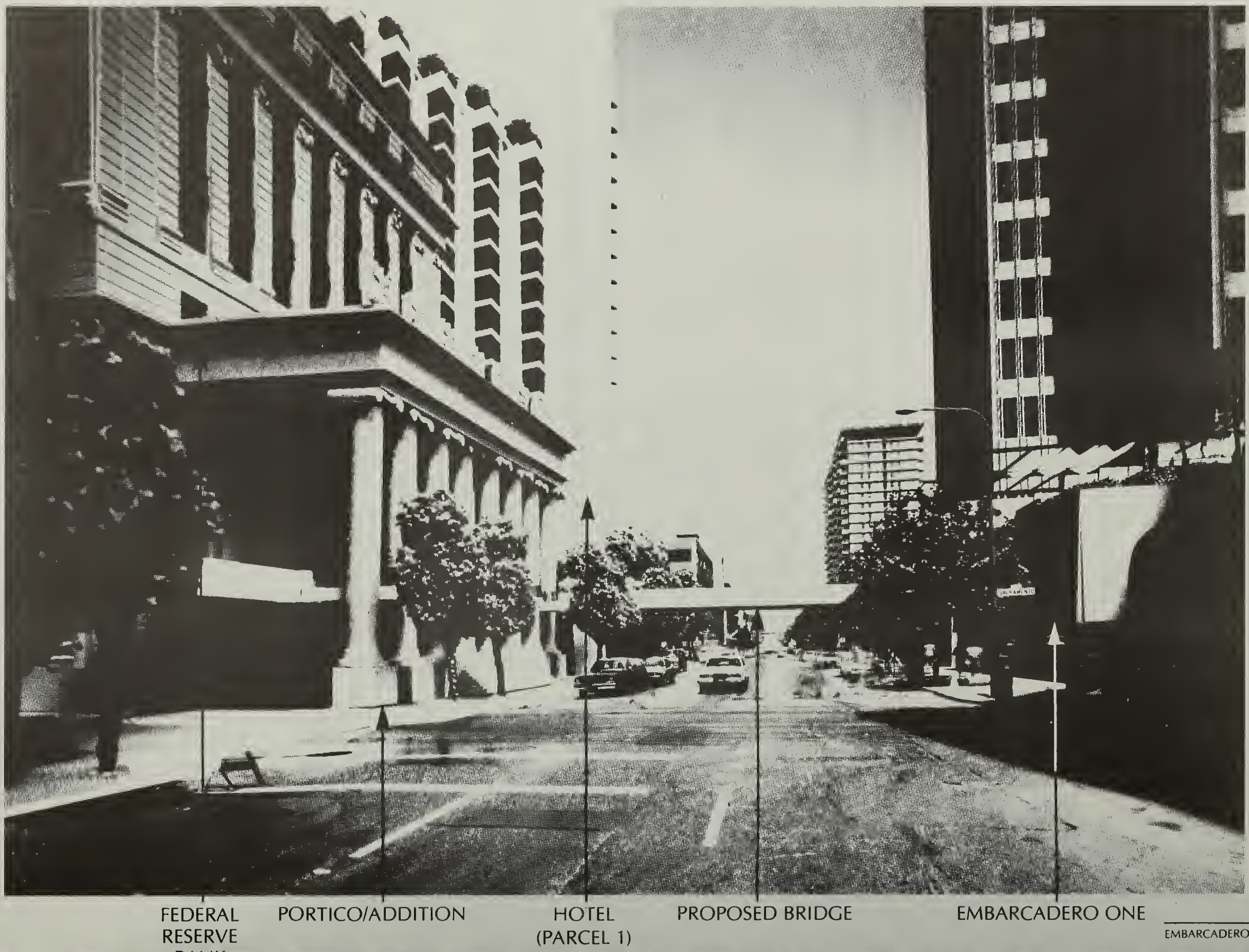
[2] Department of the Interior, National Park Service, Ineligibility Determination For Kodak Building, December 21, 1982, on file at the Department of City Planning, 450 McAllister, Fifth Floor, San Francisco.

[3] Dr. Knox Mellon, State Historic Preservation Officer, Office of Historic Preservation, letters of November 29, 1982 and December 1, 1982, on file at the Department of City Planning, 450 McAllister, Fifth Floor, San Francisco.

PROJECT PHOTOMONTAGE: LOOKING NORTH ON BATTERY STREET PAST FEDERAL RESERVE BANK TOWARDS HOTEL

FIGURE 20

SOURCE: EIP CORPORATION



C. URBAN DESIGN AND VISUAL QUALITY

The proposed project would include construction of a 24-story hotel (Parcel 1), a 33-story office tower above a retail podium (Parcel 3) and adaptive reuse of the Federal Reserve Bank building on Parcel 2 (see Section II.C., Project Description, page 12). Pedestrian bridges would connect the project buildings and link the project to the Battery Street frontage of One Embarcadero Center, east of the project site. The following analysis compares the project to the policies of the Urban Design Element of the San Francisco Comprehensive Plan.[1] The Urban Design Element serves as a guide in the design and construction of new buildings to prevent the urban environment from being adversely disrupted.

Major New Development

> Policy 5: "Relate the height of buildings to important attributes of the City pattern and to the height and character of existing development." (page 36)
>
> Policy 6: "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction." (page 37)

The Financial District in the area of the proposed project is comprised of buildings that range from one to 52 stories in height (as noted in Section III.C, Urban Design and Visual Quality, page 49. Many of the tallest and newest high-rise buildings in the City are located in this district along with numerous older, smaller-scale buildings. The character of the project area is, therefore, one of distinct contrasts in the height, bulk, style and scale of individual buildings.

The proposed 24-story hotel structure on Parcel 1 and the proposed 33-story structure on Parcel 3 would be immediately north and south, respectively, of the restored 9.5-story Federal Reserve Bank building on Parcel 2. Both the style and scale of the proposed structures for Parcels 1 and 3 would contrast with the Neo-Classic style of the Federal Reserve Bank building, as well as with other older buildings, particularly to the south along California Street. The proposed development on Parcels 1 and 3 would be comparable in height and bulk to other high-rise buildings in the project area. Embarcadero Center One, directly east of Parcel 2, is 41 stories tall. The 29-story Alcoa building rises above a 2-story base immediately northeast of Parcel 1. The proposed 24-story structure on Parcel 1 would relate to the 48-story Transamerica building one block to the northwest and to a group of high-rise structures at the intersection of Sansome and Clay Streets. The height of the 35-story structure proposed for Parcel 3 would be taller than the high-rise structures at 353 Sacramento Street (25 stories) across Battery Street and the California First Bank building at 350 California Street (22 stories) south of the project site, and lower than the 333 (345) California building currently under construction (47 stories) south of the project site. The bulk of the Parcel 3 structure would be less than the 333 California building, and greater than that of the other structures.

The proposed structures on Parcel 1 and 3 would be larger in scale and size than existing low-rise buildings in the project vicinity. The single-story Fugazi building lies directly west of Parcel 2 on Sansome Street and a number of two-story structures lie immediately north of Parcel 1 on Clay Street. Small-scale and mid-sized buildings in the project area are also located southwest of the project site at 350 Sansome Street, and near the proposed structure on Parcel 3. The older and newer portions of 353 Sacramento Street combine the scale of an older building with that of more recent development. The preservation and restoration of the Federal Reserve Bank building would preserve intact a building representative in scale and similar in size to other, older mid-rise buildings in the project area. The proposed development of Parcel 3 would incorporate at its base an older, smaller-scale, three-story structure at 435 Sacramento Street.

Major New Development

> Policy 1: "Promote harmony in the visual relationships and transitions between new and older buildings." (page 36)
>
> Policy 2: "Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance." (page 36)

Conservation

> Policy 6: "Respect the character of older development nearby in the design of new buildings." (page 24)

As noted previously (Section III.C., page 49), there is a mix of architectural styles, colors and construction materials in the Financial District. It is the intent of the project architects to relate the design of the proposed structures to buildings of the Embarcadero Center and thus extend westward the characteristic building forms of Embarcadero Center. The proposed hotel on Parcel 1 would rise above a podium set at the same height as the existing podium for One Embarcadero Center. Vertical elements comprised of a set of bay windows on the north-and south-facing elevations of the tower portion of the proposed hotel would relate to the vertical design of One Embarcadero Center. The hotel structure's bulk would appear less because the south elevation of the building would be recessed from the property line at the intersection of Commercial and Battery Streets. The building's roof would be set back from the Battery Street property line and stepped down from west to east in eight steps from a maximum height of 241 feet to 172 feet at the Battery Street frontage (see Figures 2, 3, and 30, pages 19, 20, and 99).

The proposed office tower on Parcel 3 would be larger than the hotel on Parcel 1 and would contain symmetrical setbacks on the top of the building along the north-and south-facing elevations. The setbacks would begin at 352 feet on the north elevation of the project and 364 feet on the south elevation. The building would attain a maximum height of 400 feet on its south- and north-facing elevations, and a total height of 416 feet (including mechanical penthouse) in the midsection of the building. Setbacks in the upper-tower portion of the structure would modulate the building silhouette and massing. (See Figures 2, 4, and 5, pages 19, 21, and 22).

The skin of the proposed buildings would be light-grey concrete and the glass would have a light-bronze tint.[2] The architects intend not to duplicate the design of the existing Embarcadero Center buildings, but to maintain compatibility between the project and the Embarcadero Center. The size of the proposed buildings' windows would vary, but would generally be based on the arrangement and use of internal building spaces to be compatible with the narrow, vertical fenestration of the Embarcadero Center buildings. The light-colored skin of the project buildings is intended to blend in with the light-grey of the Federal Reserve Bank and other building colors in the area that include light tans, beiges, reds and medium blue-green. Preservation of the Federal Reserve Bank would respond to Policy 6 by the incorporation of this older development within the project. The design of the new buildings would contrast with the design of the Federal Reserve Bank building. This is particularly true of the form relationship between the proposed hotel and the Federal Reserve Bank building, where the angular shape of the hotel wall would contrast with the classically styled facade of the bank. The architects intend that the contrast appear less, by elevating the angular portion of the hotel and recessing it at the podium level from the property line at Commercial Street.

> City Pattern Policy 1: "Recognize and protect major views in the City, with particular attention to those of open space and water." (page 10)

The proposed buildings would obstruct street-level and low-rise building views from the north, south, east and west of the project site. Views would also be obstructed from the upper floors of adjacent buildings with a height greater than 160 feet, the height of the tallest existing structure on the project site. The degree of view blockage would vary, depending on observer position and elevation with respect to the location of the proposed structures. Because project buildings would rise above adjacent buildings on the project block, their upper floors would provide new views of the Financial District and other parts of San Francisco, the Bay and hillsides of the East Bay and Marin County.

Buildings opposite the project block on the west and east would have mid-range views obstructed to varying degrees. The lower floors of existing buildings along Sansome Street that have no views to outlying areas would not be affected by the proposed buildings. However, upper floors of the west-face of One Embarcadero Center at Sacramento and Battery Streets would have westward views obstructed in a horizontal plane of about 20-30 degrees. Views southeast from the Wells Fargo building at Clay and Sansome Streets would be obstructed over about a 15-degree range.

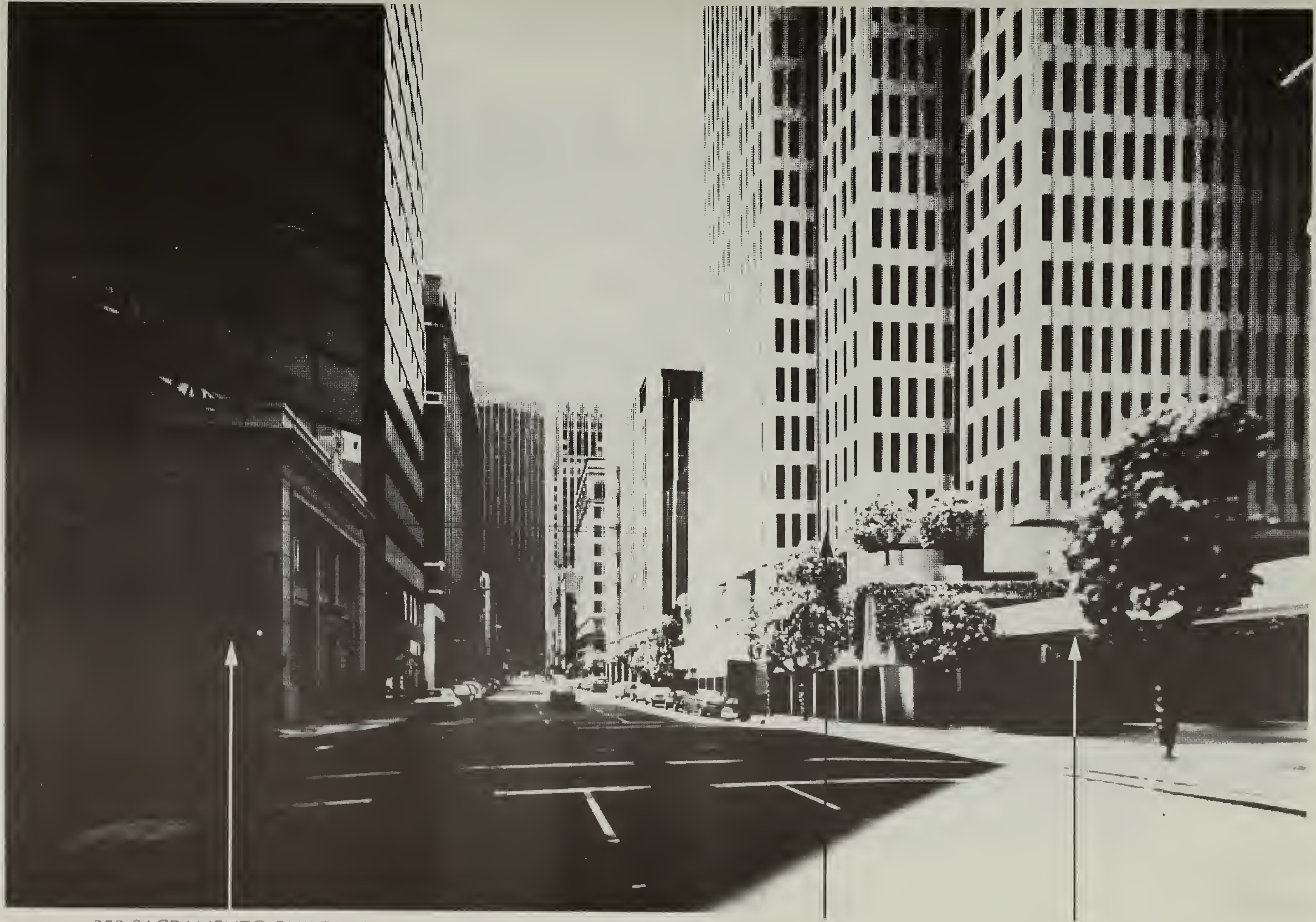
Photomontages of the proposed project area are shown in Figure 20, page 82 and Figures 21 through 31, pages 87 through 100, and base photos without the project are shown in Figures 17 and 18, pages 50 and 55. Near-range views along Commercial Street to the Ferry Building would be blocked by the proposed pedestrian bridge across Commercial Street. The project would be visible in long-range views from Telegraph Hill, Nob Hill and Twin Peaks. From all three areas, the project would be viewed as part of the complex of high-rise buildings that form the Financial District. From Nob Hill, views of the Bay are now blocked by taller buildings that would form a backdrop to the proposed buildings. From Telegraph Hill, views of the upper portions of the proposed buildings on Parcels 1 and 2 would be framed by existing high-rise development. Viewed from Twin Peaks, the proposed buildings would be a part of the Financial District skyline silhouette. As a part of that skyline silhouette, the project would contribute to the perception of an existing "urban hill;" viewed from the project site, Nob Hill would tend to lose topographical definition.

(Text continues on page 101)

PROJECT PHOTOMONTAGE: LOOKING SOUTH ON BATTERY STREET FROM MIDDLE OF BATTERY BETWEEN COMMERCIAL AND SACRAMENTO STREETS

FIGURE 21

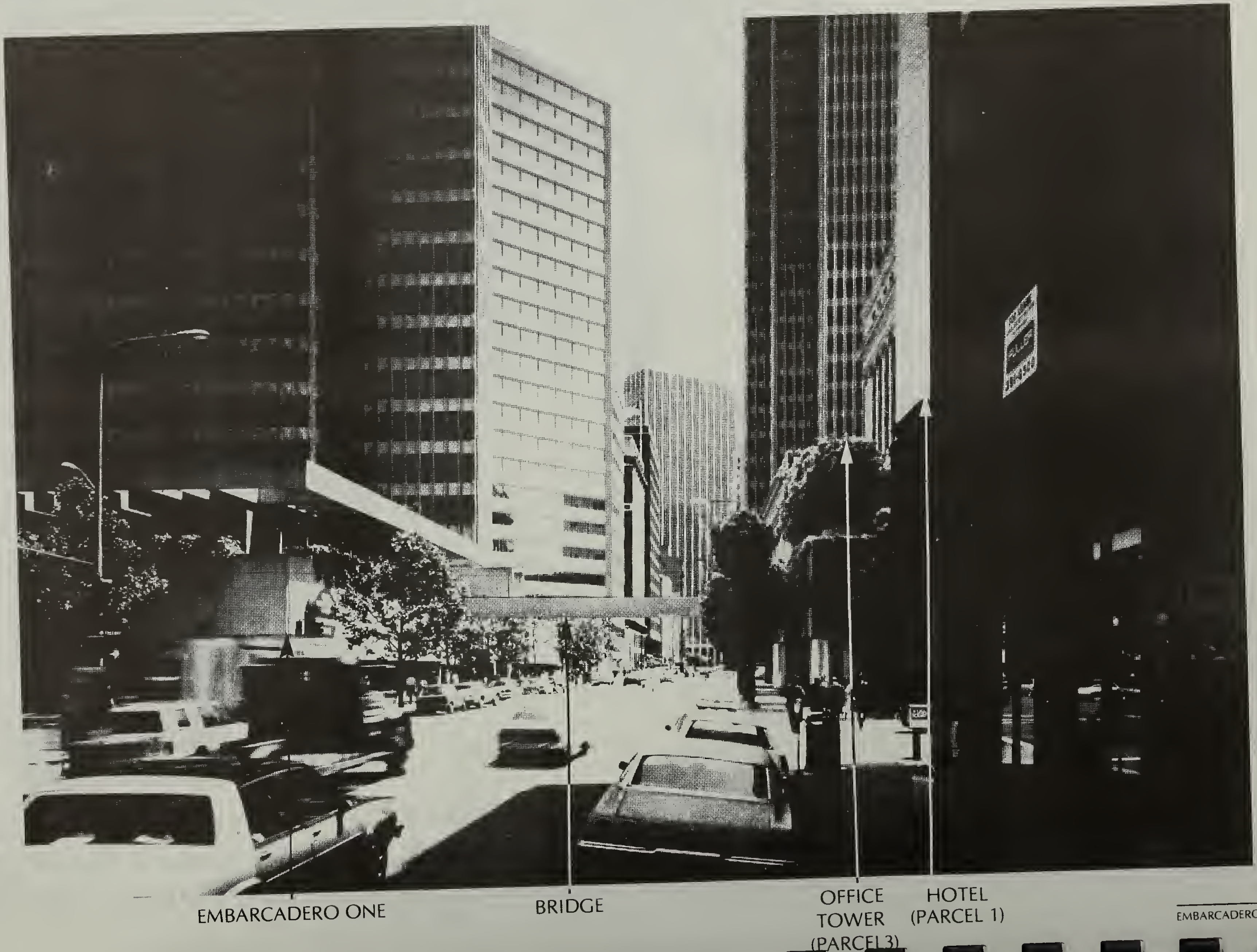
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: LOOKING SOUTH ON BATTERY STREET NEAR CLAY STREET

FIGURE 22

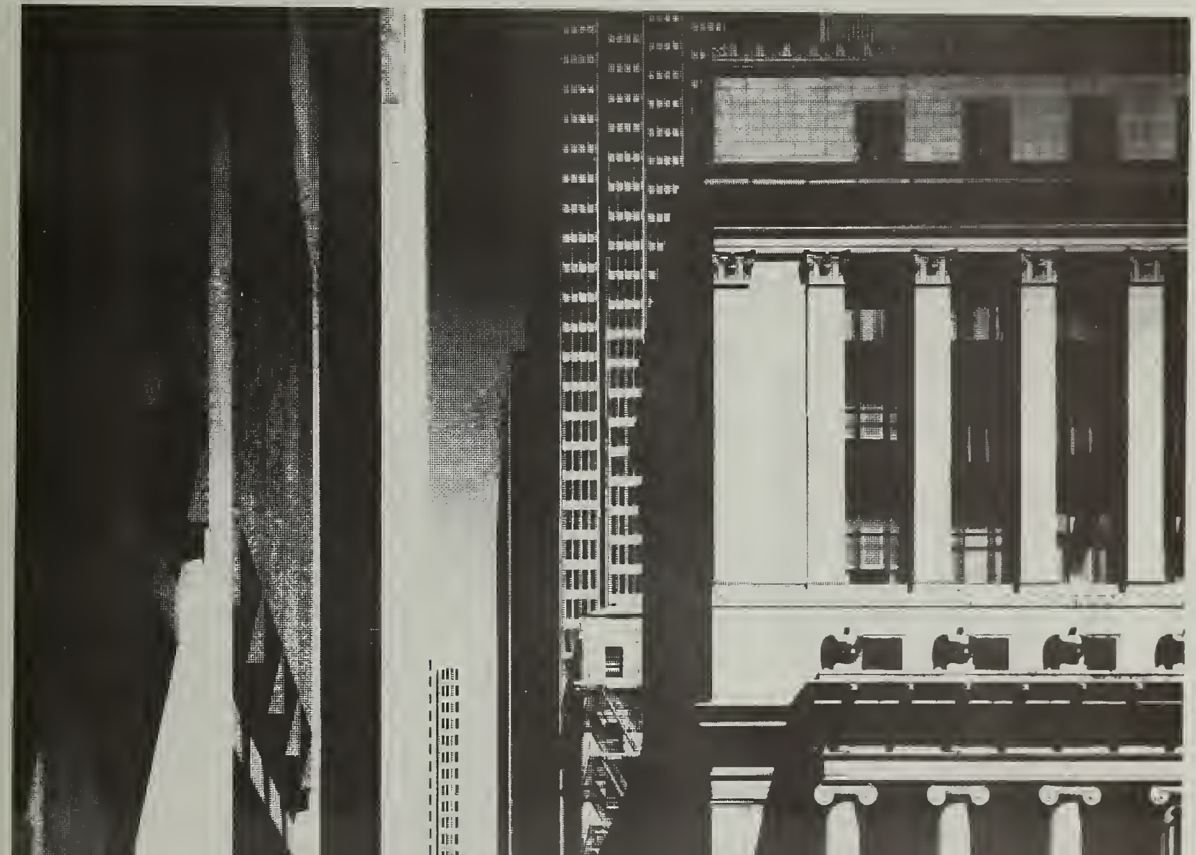
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: LOOKING EAST ON COMMERCIAL STREET NEAR SANSOME STREET

FIGURE 23

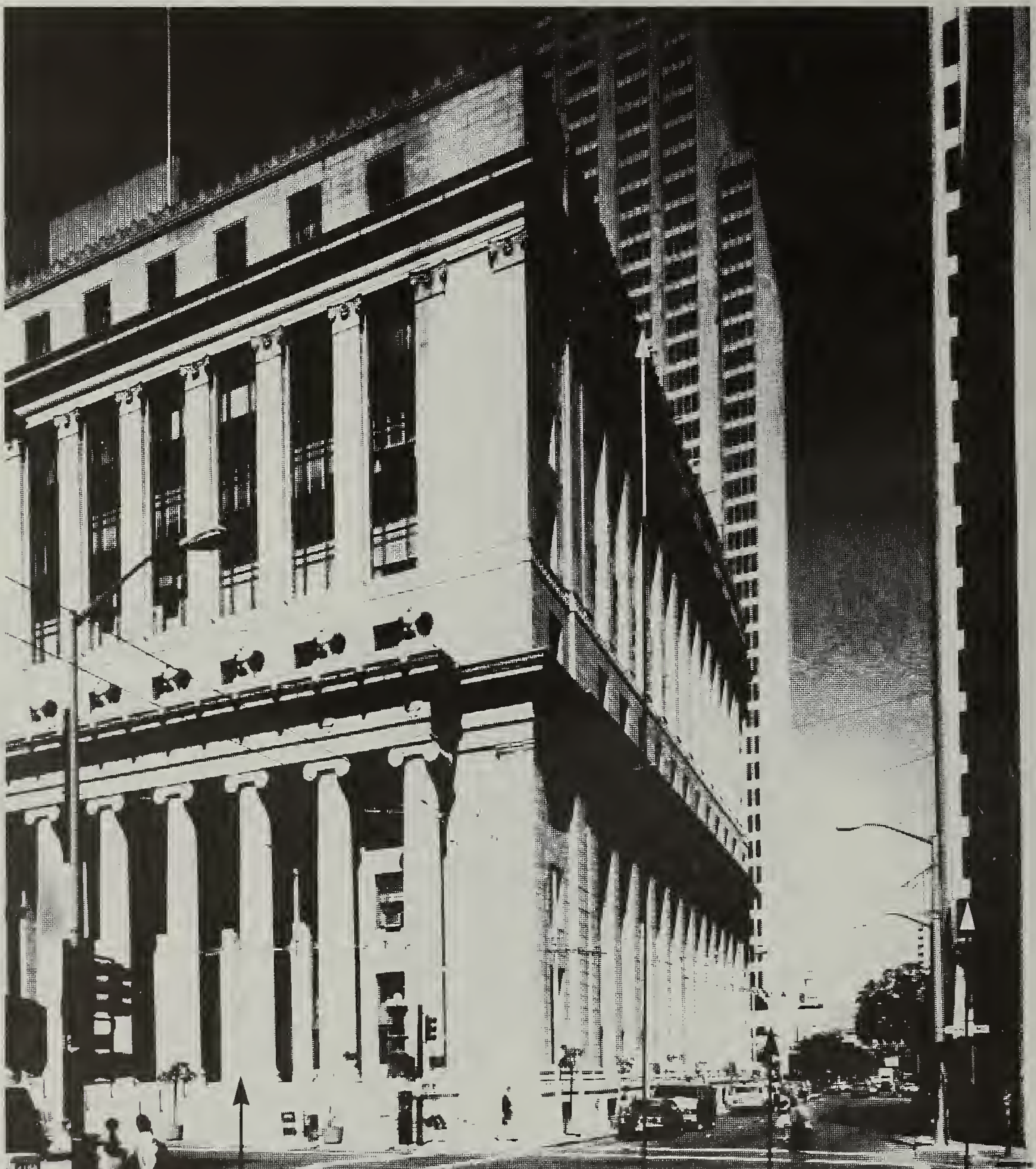
SOURCE. EIP CORPORATION



PROJECT PHOTOMONTAGE: LOOKING EAST ON SACRAMENTO STREET NEAR SANSOME STREET

FIGURE 24

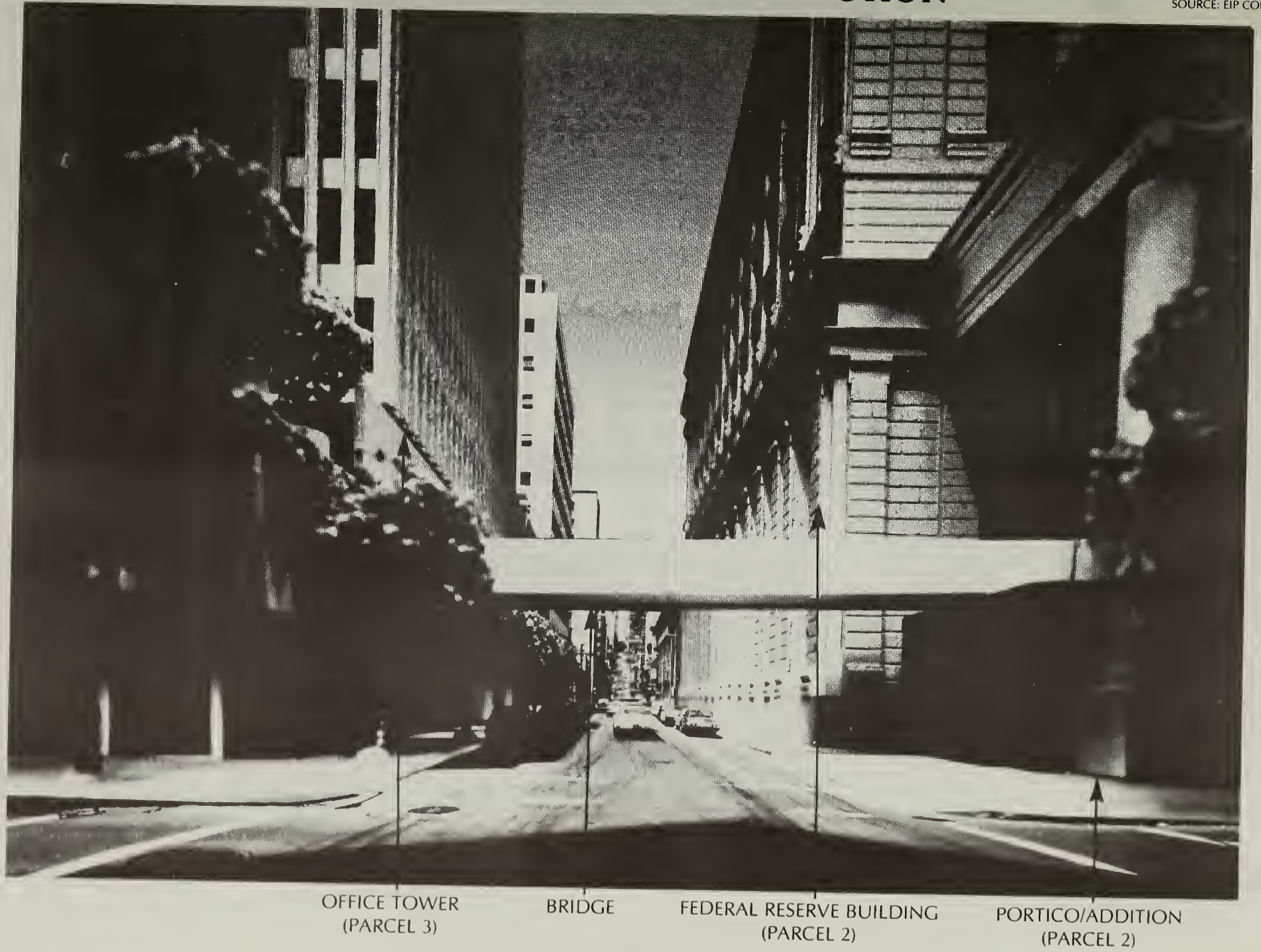
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: LOOKING WEST ON SACRAMENTO STREET FROM SACRAMENTO/BATTERY INTERSECTION

FIGURE 25

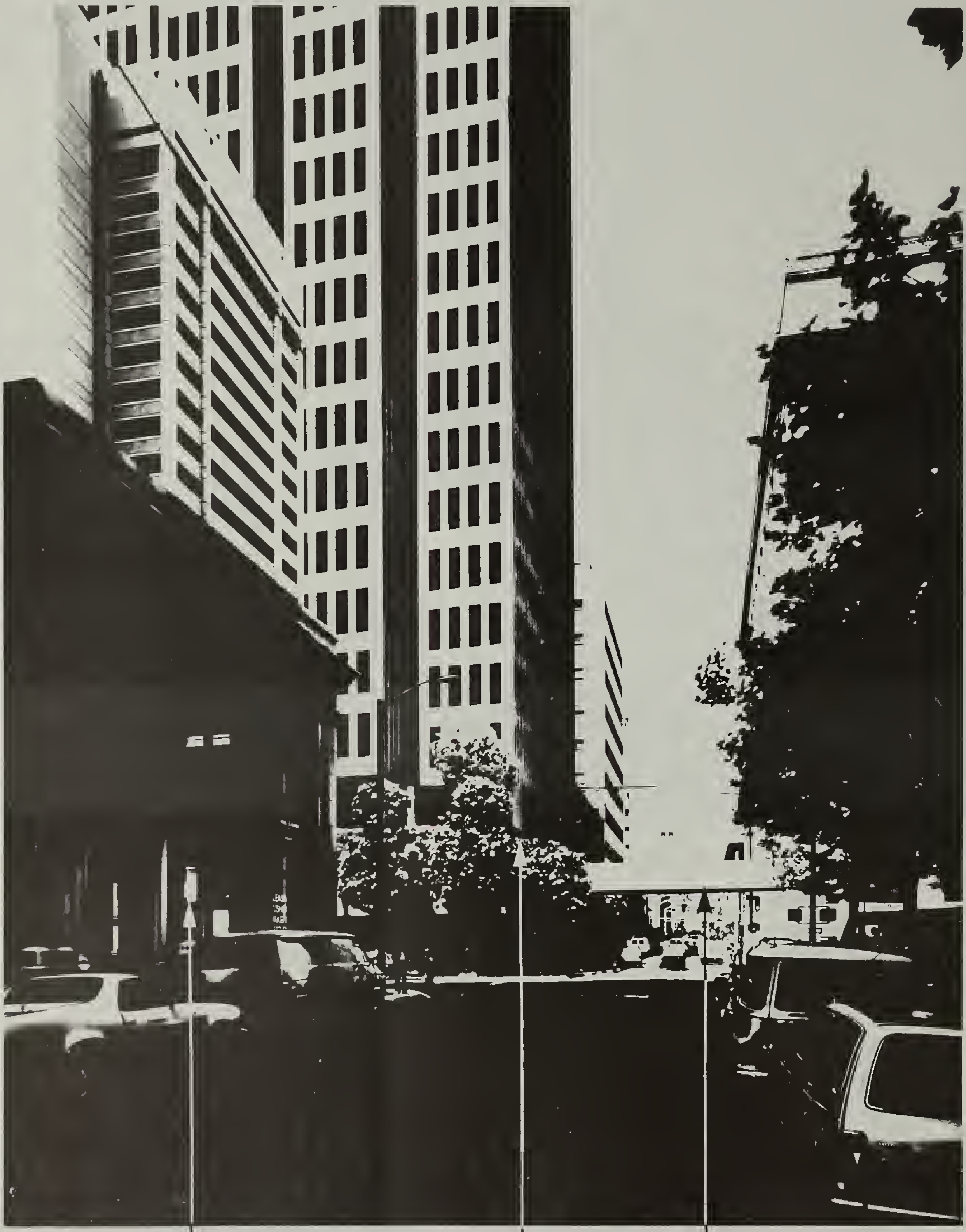
SOURCE: EIP CORPORATION

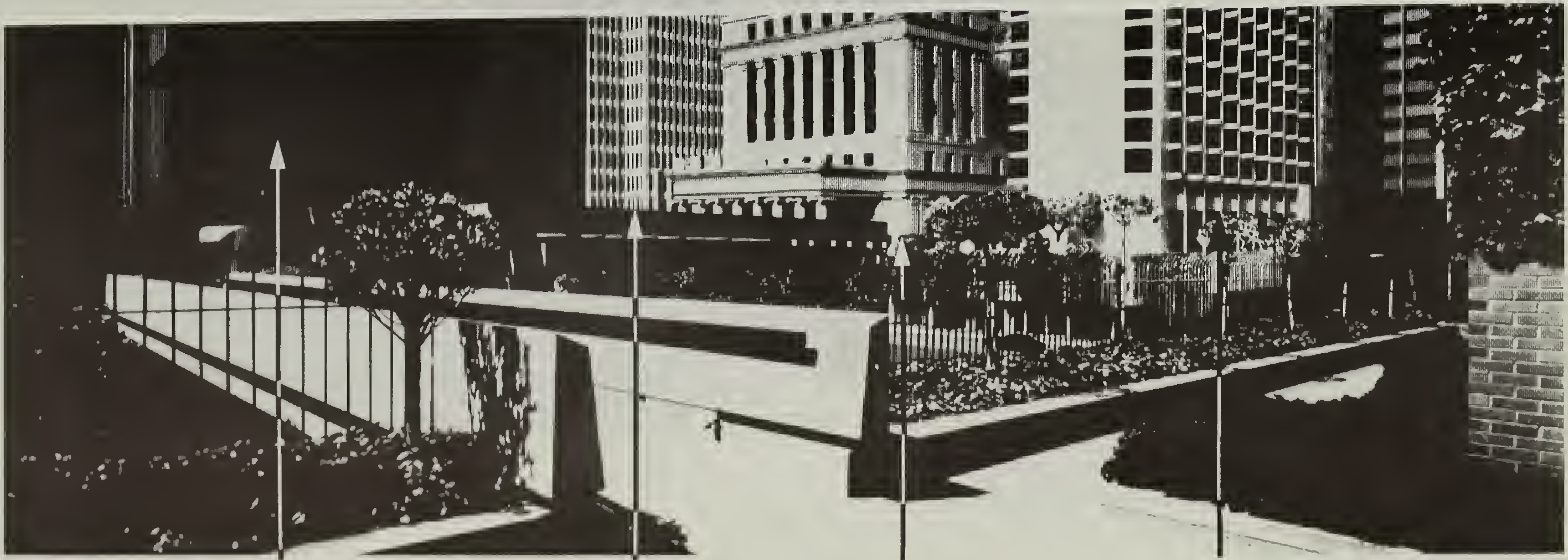


PROJECT PHOTOMONTAGE: LOOKING WEST ON SACRAMENTO FROM 100 FEET EAST OF SACRAMENTO/BATTERY INTERSECTION

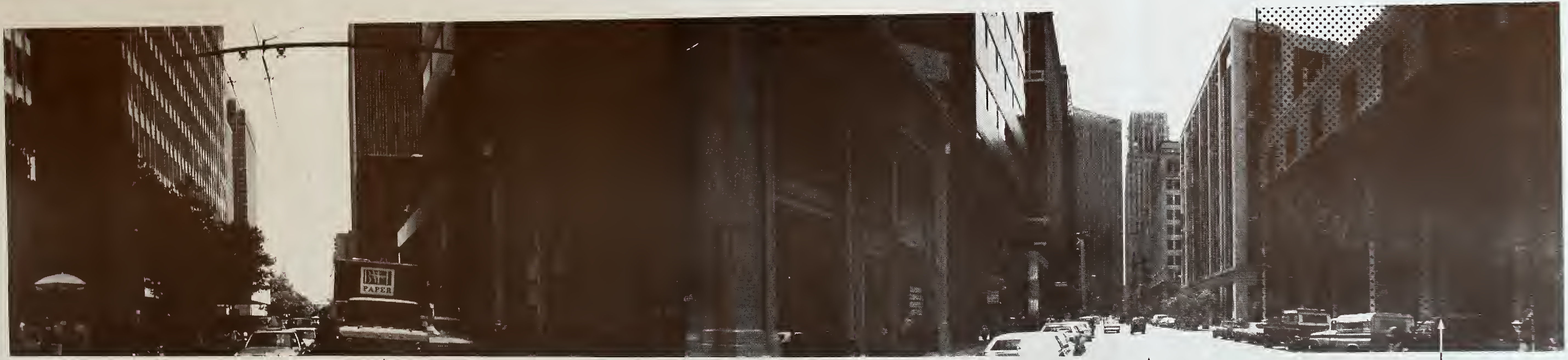
FIGURE 26

SOURCE: EIP CORPORATION




EMBARCADERO ONE
OFFICE TOWER (PARCEL 3)
FEDERAL RESERVE BUILDING (PARCEL 2)
HOTEL (PARCEL 1)

PANORAMA STREET-LEVEL VIEW FROM BATTERY STREET AT SACRAMENTO STREET



NOTE:

VIEWER POSITION ROTATES. FROM LEFT TO RIGHT, VIEWER IS LOOKING EAST ON SACRAMENTO STREET, SOUTH ON BATTERY STREET, WEST ON SACRAMENTO STREET, AND NORTH ON BATTERY STREET.

PROJECT PHOTOMONTAGE: SOUTHWEST, FROM MARITIME PLAZA BRIDGE

FIGURE 28

SOURCE: EIP CORPORATION

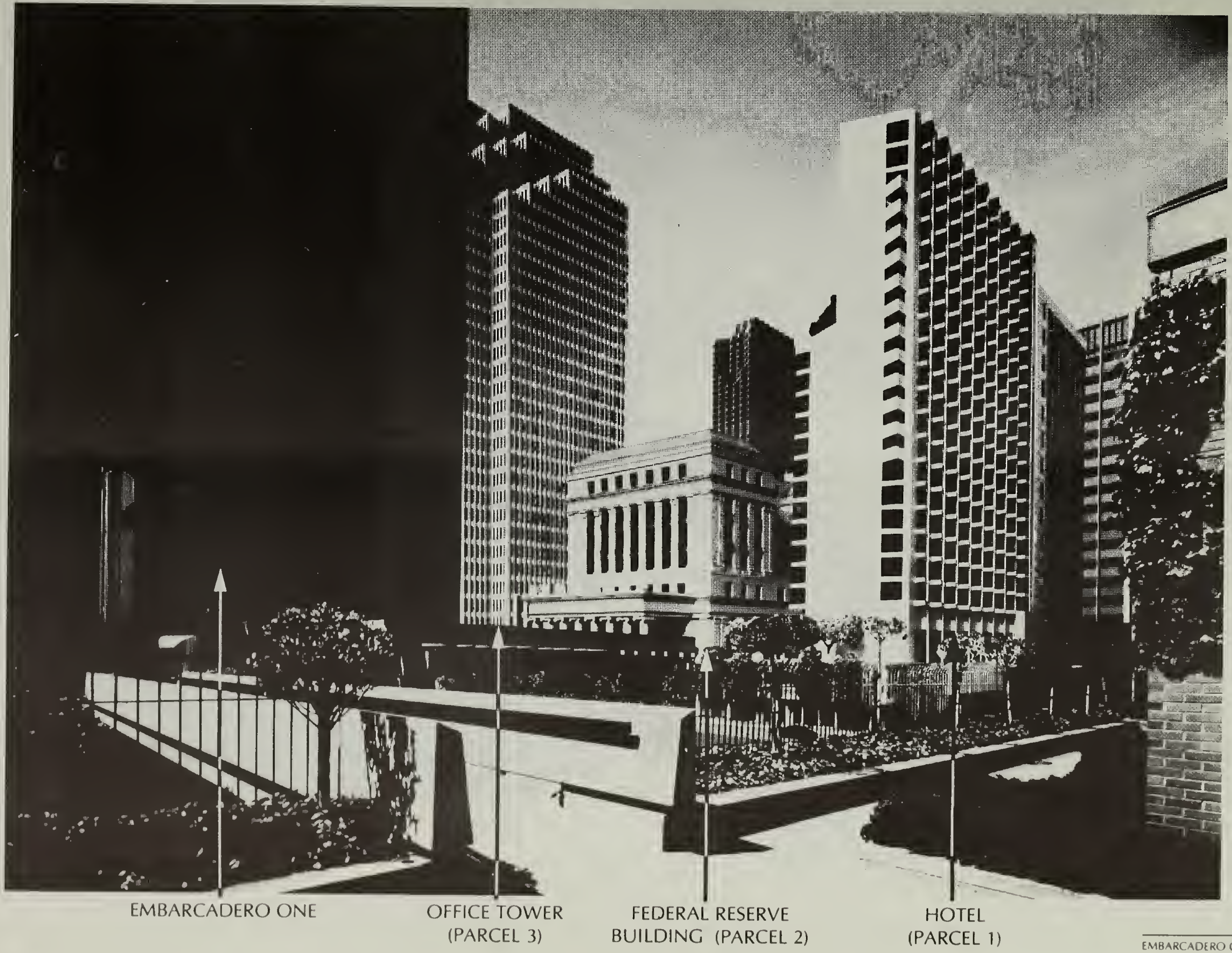
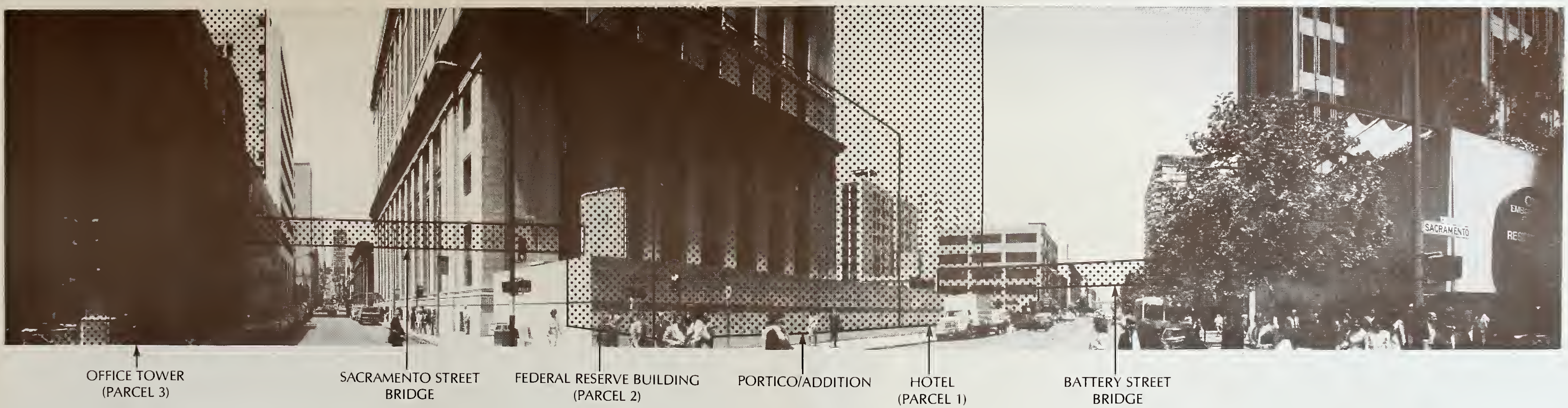


FIGURE 27

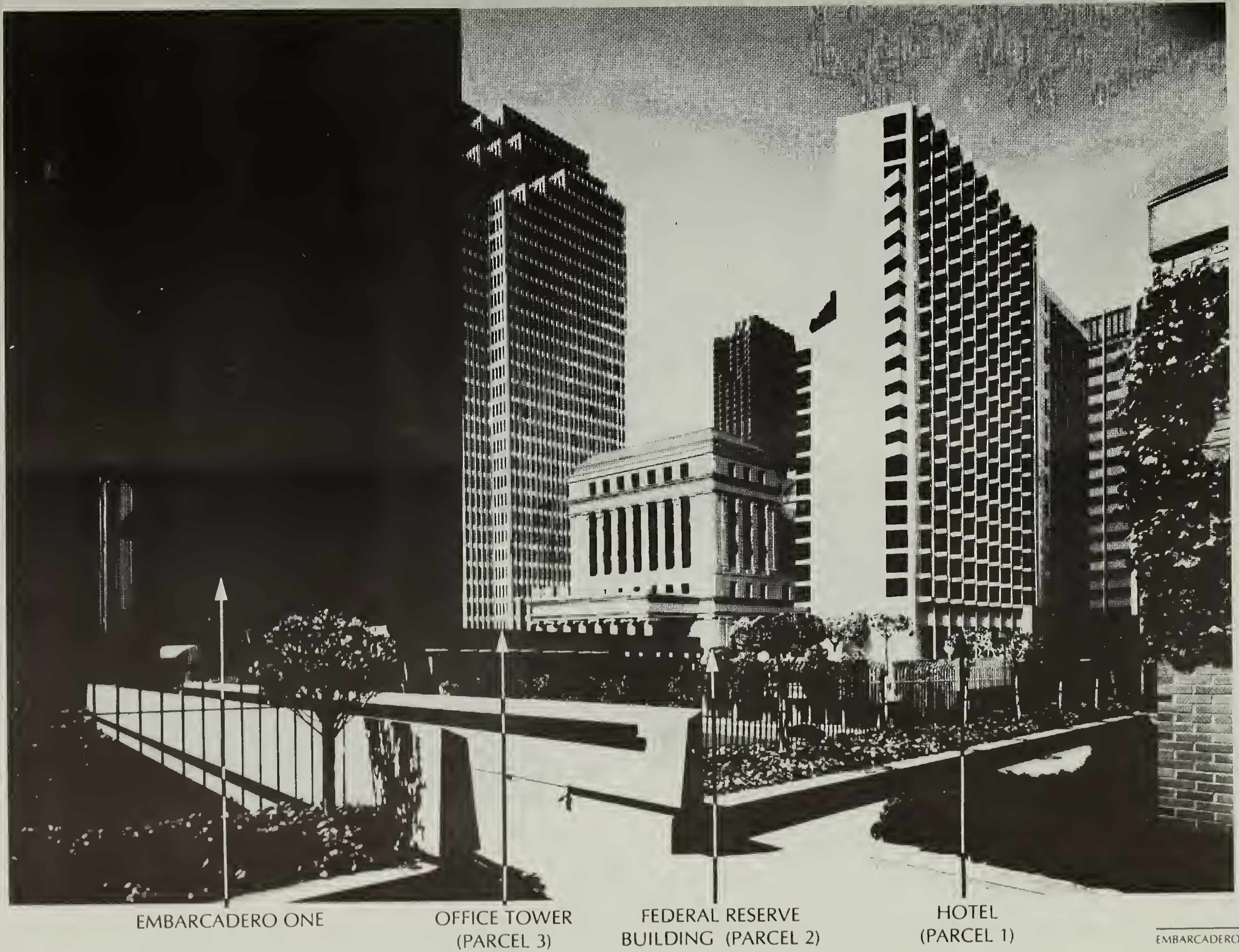
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: SOUTHWEST, FROM MARITIME PLAZA BRIDGE

FIGURE 28

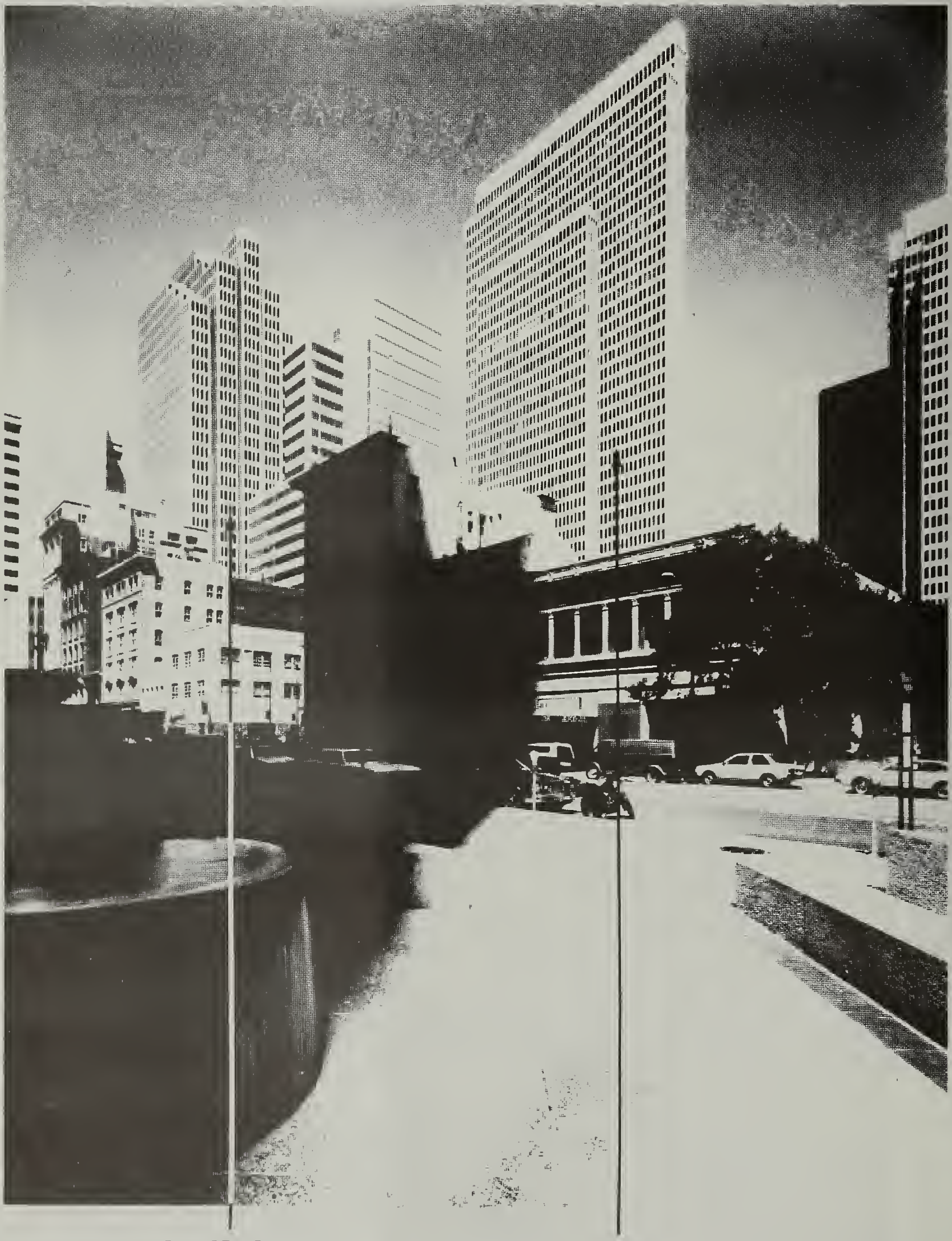
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: VIEW LOOKING NORTHWEST FROM 101 CALIFORNIA PLAZA

FIGURE 29

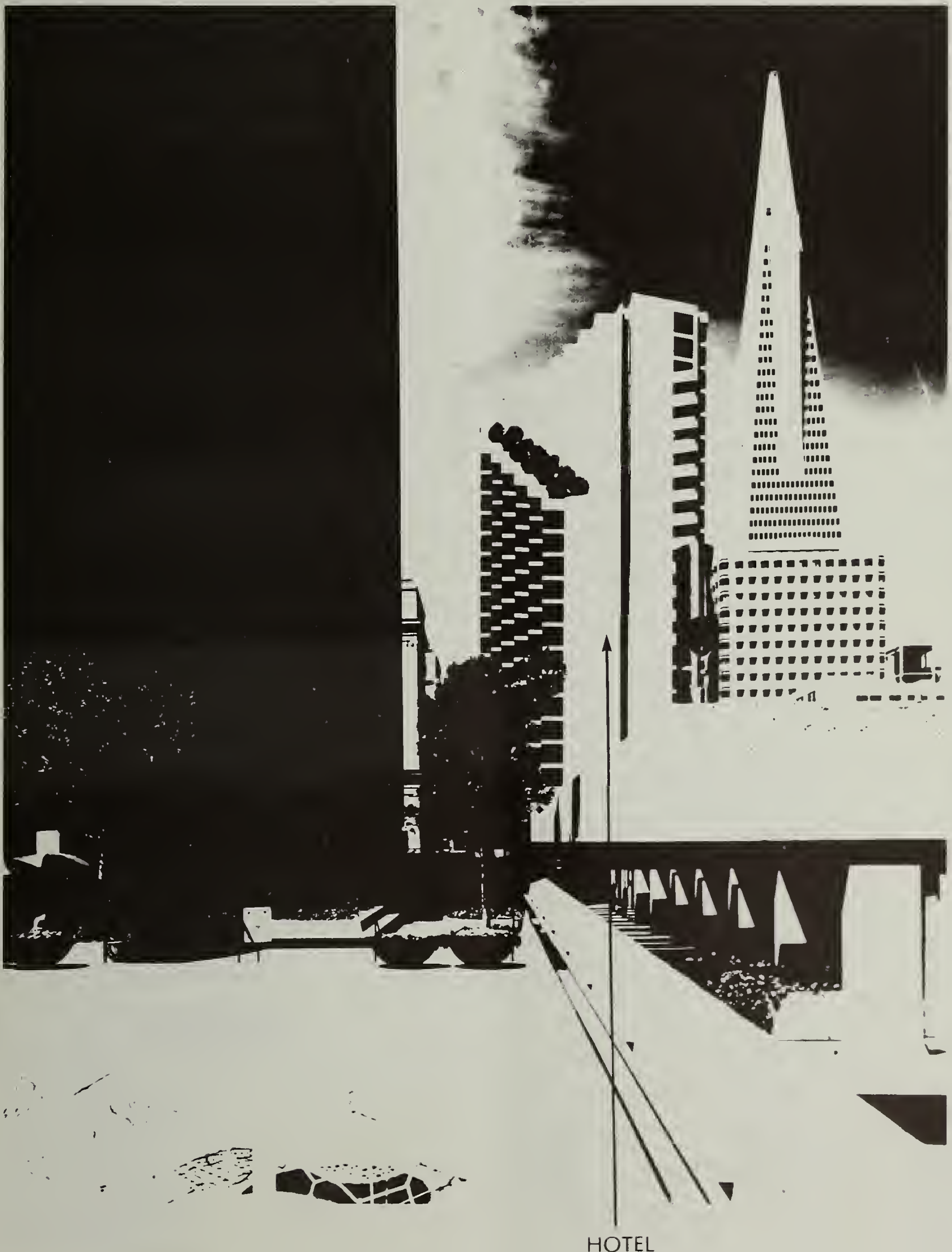
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: LOOKING WEST FROM EMBARCADERO CENTER

FIGURE 30

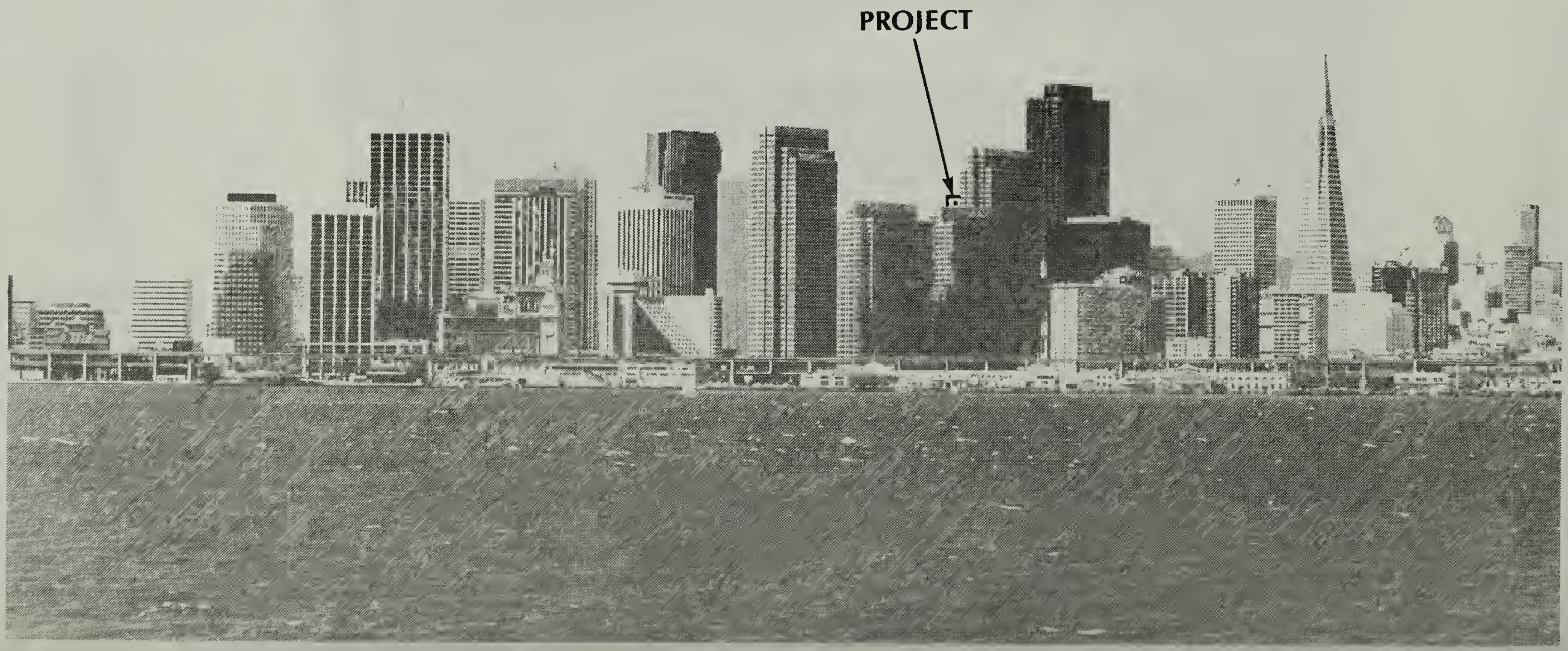
SOURCE: EIP CORPORATION



PROJECT PHOTOMONTAGE: LOOKING WEST FROM TREASURE ISLAND

FIGURE 31

SOURCE: EIP CORPORATION



The Sacramento Street pedestrian bridge would obstruct Sacramento/Sansome Street views of the upper portion of the Ferry Building clock tower, a visual reference point for pedestrians. The view obstruction would be momentary to the pedestrian, however, because the sides of the bridge would not exceed about six feet in height (see Figure 24, page 90).

On Commercial Street views of the Ferry Building would be blocked by the proposed pedestrian bridge on that street. Views to the Federal Reserve Bank building on Commercial Street would be blocked by access to the proposed bridges from a point immediately near the Bank building. Views to the east on Commercial Street from locations west of Sansome Street would not be obstructed because of the presence of Embarcadero Center. Views looking west toward Chinatown on Commercial Street at its intersection with Battery Street would be partially obstructed depending on the precise location of the observer. Views south on Battery Street would be most obstructed by the proposed bridge from a point immediately north of the bridge. From locations farther north on Battery Street, mid- to long-range views would not be impared although the pedestrian bridge would stand out. Views north on Battery Street from locations south of the proposed bridge would be similarly affected.

> City Pattern Policy 2: "Recognize, protect and reinforce the existing street pattern...." (page 10)

The project would close Commercial Street between Battery Street and Sansome Street to vehicular traffic, creating a landscaped, pedestrian street. The proposed high-rise structures would enclose and visually define the street grid system along Halleck, Sacramento and Clay Streets. Pedestrian bridges would not reinforce the grid system along Battery Street; similarly, bridges across Battery and Sacramento Streets would contribute to the alternative circulation pattern that exists at Embarcadero Center.

Buildings constructed in the International Style have, over the past 20-25 years, tended to disrupt the Financial District's established streetwall relationships, although maintaining a streetwall by building out to existing lot lines in many cases. The streetwall height along Clay and Battery Streets would be reflected in the proposed structures for Parcels 1 and 2. The podium of the proposed hotel structure for Parcel 1 would relate to the podium for the Alcoa Building (Maritime Plaza) and the podium of the Embarcadero Center buildings, and would be similar to the streetwall height of older structures in the area. Incorporation of the Federal Reserve Bank into the project proposal would maintain its existing streetwall relationships along both Sansome and Battery Streets.

The base portion of the proposed structure for Parcel 3 would maintain this streetwall height along Battery Street. Pedestrian bridges linking Parcels 1, 2 and 3 would be at the streetwall height on Battery Street. Streetwall heights along Sacramento and Halleck Streets would be less well defined, although the three-story base of the structure proposed for Parcel 3 and the retained 435 Sacramento Street building would maintain, in some measure, the streetwall height along these streets. The streetwall height for Commercial Street would be defined by the Parcel 1 structure's 2-story podium on the north side of the street and by the existing 9-story Federal Reserve Bank building on the street's south side.

> Conservation Policy 4: "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development." (page 25)
>
> Conservation Policy 5: "Use care in remodeling of older buildings in order to enhance rather than weaken the original character of such buildings." (page 25)

The landmark Federal Reserve Bank building would be preserved and rehabilitated for office, restaurant and retail use. The existing building facades would be preserved. Architects experienced in architectural preservation have been retained to direct building activities, including seismic upgrading and remodeling. (See Section IV.B., Architectural Resources, page 79, for a discussion of rehabilitation plans for the Bank building.) The project would demolish the four-story 241 Battery Street building (Eastman Kodak Building). The project would thus preserve a landmark building of historic, architectural and aesthetic value eligible for listing in the Federal Register, and would demolish a "B"-rated building. See also the above discussion regarding the Federal Reserve Bank building.

> Neighborhood Environment Policy 14: "Remove and obscure distracting and cluttering elements." (page 57)

An existing 75-space surface parking lot at the southwest corner of the intersection of Battery and Clay Streets would be removed to allow construction of a 24-story hotel. The Urban Design Plan notes:

> "No other element in the street environment is more disrupting than exposed parking. Parking lots and open parking decks break the building facades and stand as large voids in visual interest. Exposed vehicles clutter the pedestrian's view and reduce the sidewalk to a narrow corridor between rows of automobiles." (page 57)

City Pattern

> Policy 3: "Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts." (page 10)
>
> Policy 5: "Emphasize the special nature of each district through distinctive landscaping and other features." (page 12)
>
> Policy 6: "Make centers of activity more prominent through design of street features and by other means." (page 12)

Buildings of varied style, age, height and form comprise the visual environment of the Financial District, which contains many of the largest and tallest buildings in the City, as well as some of the oldest and smallest commercial buildings. The project would continue the characteristic Embarcadero Center development westward. The creation of street-level retail activity on Battery, Sacramento, and Commercial Streets adjoining Parcels 1, 2 and 3 would contribute to an existing street environment and is intended to complement the three levels of retail shops, restaurants and open space of the existing Embarcadero Center complex. Proposed development of Commercial Street as a pedestrian thoroughfare would provide additional landscaped pedestrian space in the Financial District, and would thus respond to Policies 5 and 6 above. Closure of Commercial Street would result in some change of the district's street pattern and traffic flows. Vehicle access to nine parking spaces and service access on Parcel 1 would be eliminated, necessitating re-routing to Clay Street (see IV.E., Transportation Impacts, page 145).

Pedestrian bridges would partially define and enclose Sacramento and Battery Streets, as the Embarcadero Center has enclosed and defined the north-south streets between Embarcadero One, Two, Three, and Four. (See discussion of Neighborhood Environment which follows.)

Major New Development

> Policy 4: "Promote building forms that will respect and improve the integrity of open spaces and other public areas. (page 36)

Street-level access to the proposed podium level above Commercial Street and pedestrian bridges along and across Battery Street would bring pedestrian activity into the existing podium network of the Embarcadero Center complex, in the manner of the existing Embarcadero Center development. The proposed integration of public areas on Parcel 1 with adjoining open podium space would contribute to the total amount of pedestrian open space available in the Financial District. Linking the rehabilitated Federal Reserve Bank building to the two proposed structures via pedestrian bridges would integrate separate areas of open space into an extensive pedestrian network at podium level. The project would thus also respond to the Major New Development policy listed above. Approximately one-half of project open space would be above street level, with the remainder in the proposed Commercial Street pedestrian area.

Neighborhood Environment

> Policy 12: "Install, promote and maintain landscaping in public and private areas." (page 57)
>
> Policy 13: "Improve pedestrian areas by providing human scale and interest." (page 57)

The project would respond to these City Neighborhood Environment policies. A portico/addition containing retail and publicly accessible open space would be constructed on the Battery Street side of the Federal Reserve Bank, creating a new pedestrian entrance to the building. This area is now raised, and not accessible to pedestrians from Battery Street. Public open space and landscaping surrounding retail space would be provided on the first three levels of the proposed hotel on Parcel 3 and the first two levels on the Parcel 2 structure, in the manner of the existing Embarcadero Center. Recessed storefront windows allowing visual access to interior building retail spaces would provide visual interest to pedestrians.

Centers of pedestrian activity and interest would be focused at the intersection of Commercial and Battery Streets, along the Commercial Street pedestrian area, along the pedestrian bridges, and at street level on Parcels 1 and 3. Commercial Street between

Sansome and Battery Streets would be developed as a landscaped pedestrian walkway that would include stairs and a ramp leading to the other levels of retail and public open space. Pedestrians would be able to circulate among the three project structures via a common podium level along the proposed closed-off Commercial Street and the pedestrian bridge at the third level over Sacramento Street. A third pedestrian bridge, over Battery Street, would link the project with Embarcadero Center Buildings One, Two, Three and Four. Street trees would be placed along the Battery Street sidewalk to improve visual appearance and maintain pedestrian scale. Decorative tile paving and planting areas would be provided at and above street level within the project, reflecting the design treatment of the existing Embarcadero Center. The pedestrian overhead bridge across Battery Street would visually relate the Embarcadero Center pedestrian area to the pedestrian spaces of the proposed project. The bridge circulation system would emphasize pedestrian activity at the podium rather than street levels, which would conflict with policies encouraging street-level activity.

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[1] San Francisco Department of City Planning, Urban Design Plan, adopted by Resolution 6745 of the San Francisco City Planning Commission, August 26, 1971.

[2] Irving Weiner, John Portman and Associates, Architects, telephone conversation, August 3, 1983.

D. SHADOWS AND WIND

1. Shadows

Shadow patterns for existing and proposed buildings in the project area are shown for 10 a.m., 12 noon and 3:00 p.m. during winter and summer solstices when the sun is at its lowest and highest, respectively, and during the spring and fall equinoxes when the sun is at its midpoint (see Figures 32 through 35, pages 107 through 110). The analysis includes shadows cast on streets, sidewalks and pedestrian areas in the area potentially affected by the proposed project. Shadows that would be cast on building rooftops are not shown. A shadow outline of the project as though cast on a flat plane, is shown to illustrate the scale of the project in relation to the structures that would surround it.

At 10 a.m. on March 21 (see Figure 32), the project would add shadows along Clay Street and its sidewalks adjacent to and opposite Parcel 1, and to the intersection of Commercial and Sansome Streets. A small portion of Battery Street at the west end of the proposed bridge would also be shaded.At noon on March 21, the pedestrian bridge, across Battery Street would shade a section of Battery Street north of Commercial Street. Shadows would be added along Clay Street and its sidewalks north of Parcel 1 and along the northern sidewalk of Sacramento Street opposite Parcel 3. The western sidewalk of Battery Street adjacent to the Federal Reserve Building and a portion of the same sidewalk next to the proposed hotel would also be shaded at this time. At 3 p.m. on March 21, the project would add to existing shadows on streets and sidewalks at Clay/Battery and Sacramento/Battery Streets, and would newly shade about 3% of the Alcoa Building (Maritime) plaza pedestrian open space at the southwest corner of the plaza. At 3 p.m., the project would shade about 18% of the One Embarcadero Center plaza.

At 10 a.m. on June 21, the project would add shadows to portions of Clay and Sacramento Streets, near the Clay/Sansome and Sacramento/Sansome intersections, the south sidewalk of Clay Street, and portions of the north and south sidewalks of Sacramento Street west of Sansome Street. At noon on June 21, the project would add shadows to portions of Clay and Sacramento Streets and to sidewalk areas adjacent and across the street from Parcel 1 and adjacent to Parcel 2. At 3 p.m. on June 21, the project would shade the Battery/Clay and Battery/Sacramento intersections and additional segments of Battery, Clay and Sacramento Streets south and east of the intersections.

SHADOW PATTERNS: MARCH 21, PST

FIGURE 32

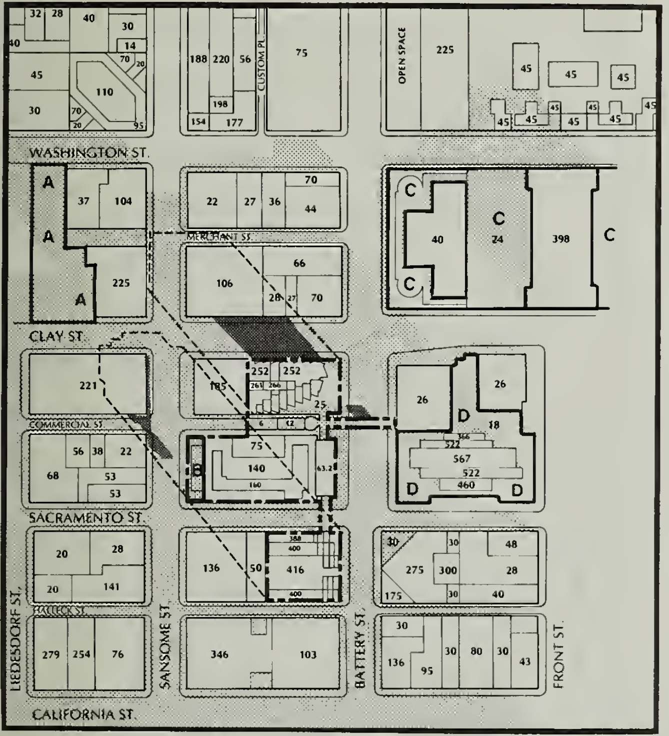
SHADOWS FROM EXISTING BUILDINGS ▭

NEW SHADOWS FROM PROPOSED PROJECT ■

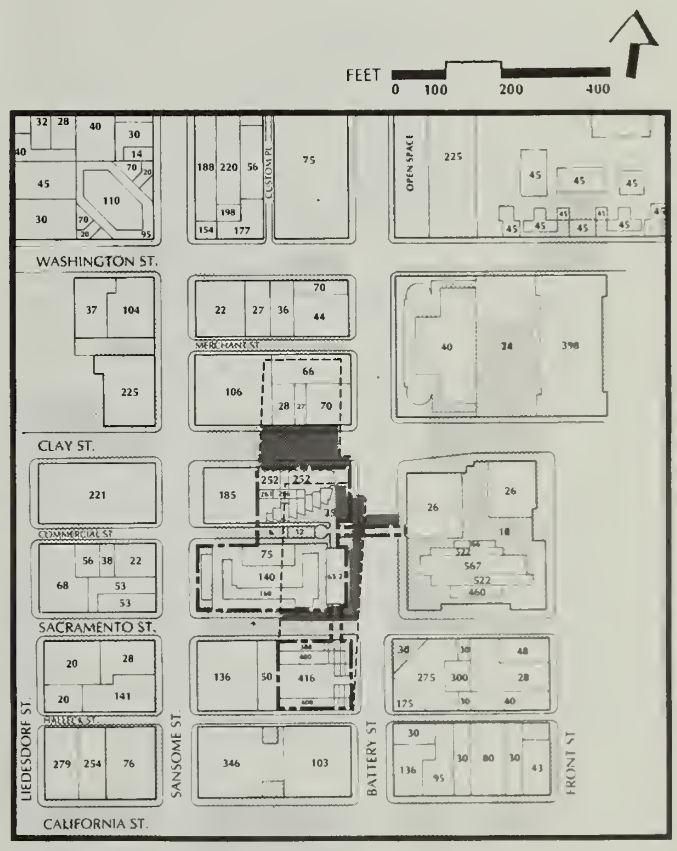
PROJECT SITE BOUNDARY

OUTLINE OF PROJECT SHADOW (Flat Plane)

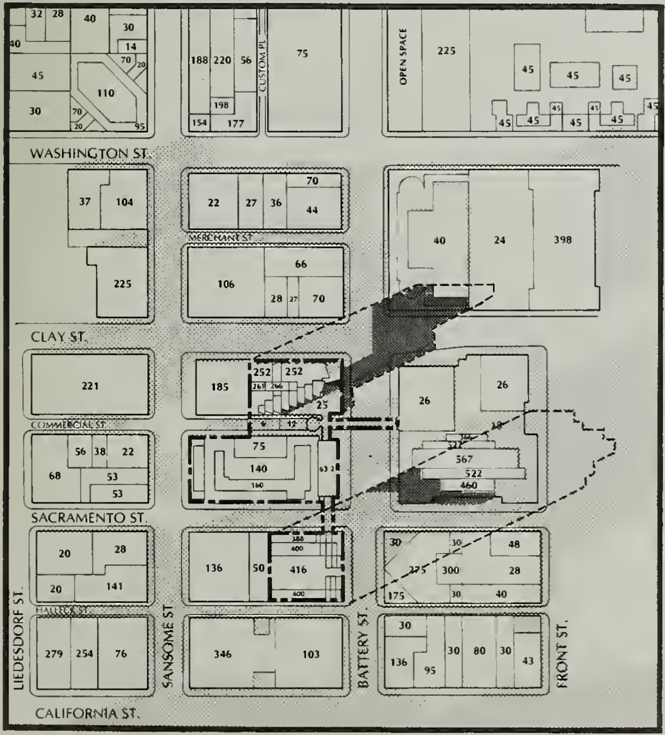
SOURCE: EIP CORPORATION



10 A.M.



12 Noon



3 P.M.

OPEN SPACE AREAS

A — REDWOOD PARK
B — SANSOME STREET STEPS
C — MARITIME PLAZA
D — EMBARCADERO CENTER ONE PLAZA

SHADOW PATTERNS: JUNE 21, PDT

FIGURE 33

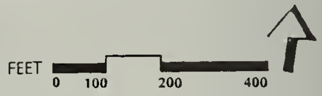
SHADOWS FROM EXISTING BUILDINGS ▨

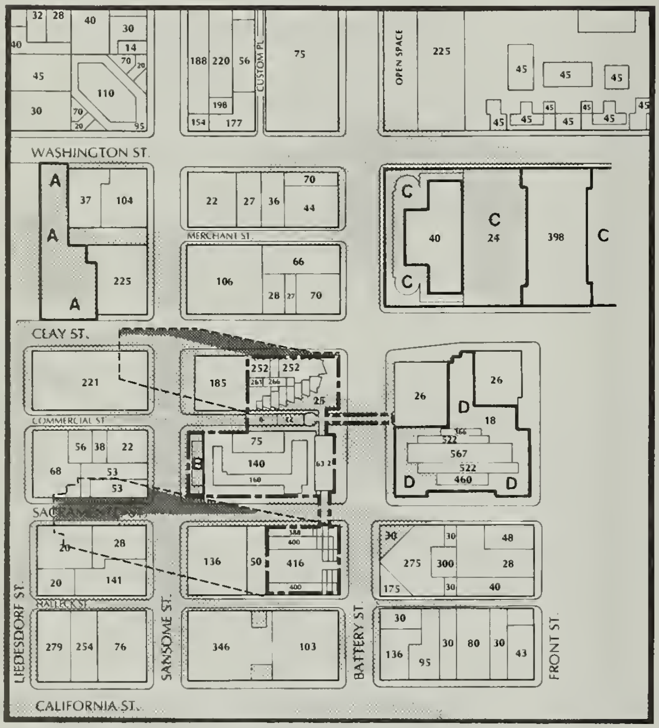
NEW SHADOWS FROM PROPOSED PROJECT ■

PROJECT SITE BOUNDARY — · —

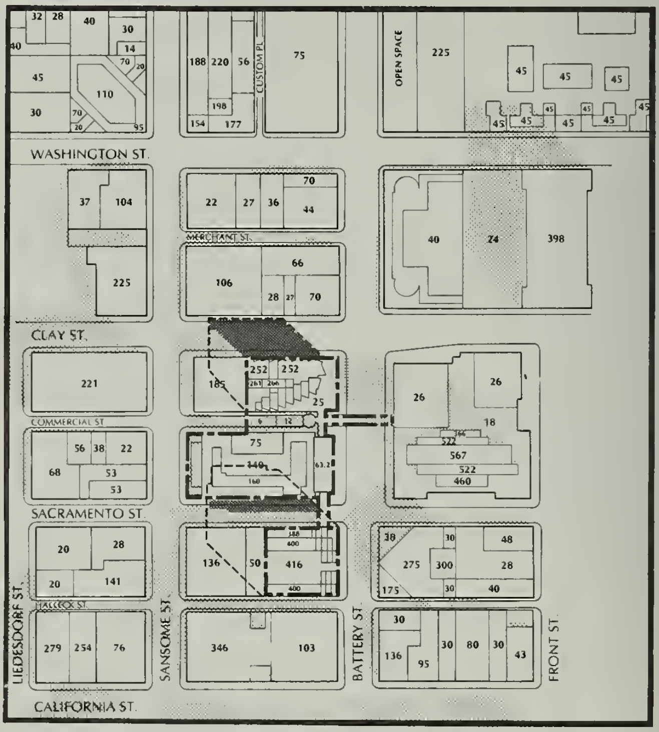
OUTLINE OF PROJECT SHADOW (Flat Plane) - - - - -

SOURCE: EIP CORPORATION

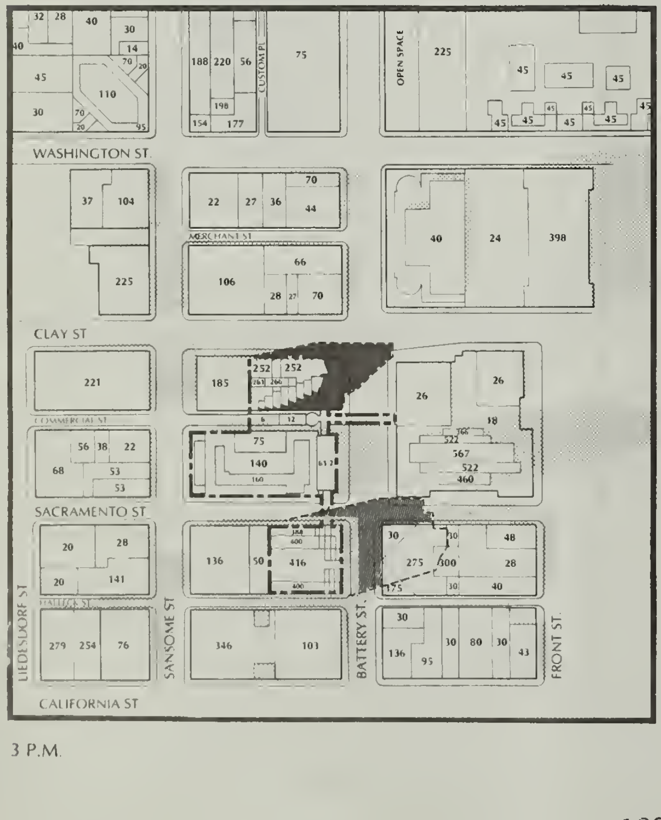




10 A.M.



12 Noon



3 P.M.

OPEN SPACE AREAS

A — REDWOOD PARK

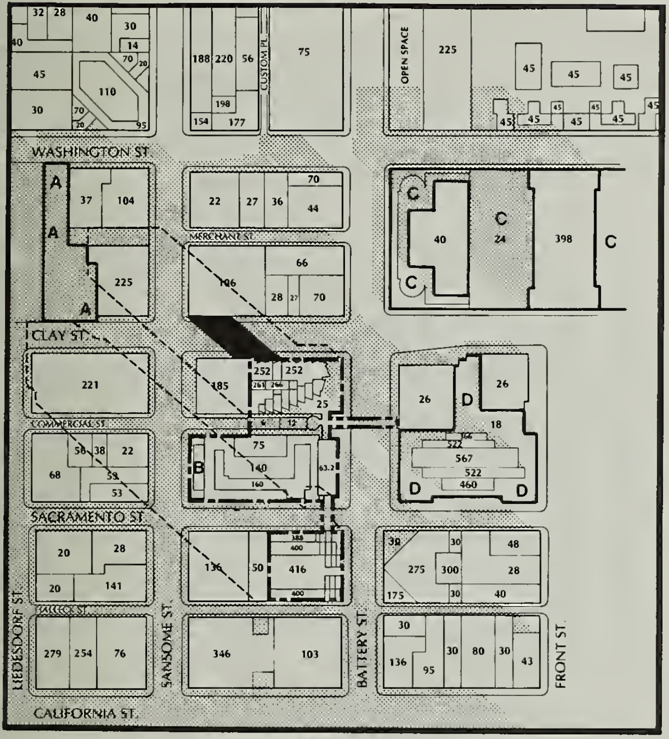
B — SANSOME STREET STEPS

C — MARITIME PLAZA

D — EMBARCADERO CENTER ONE PLAZA

SHADOW PATTERNS: SEPTEMBER 21, PDT

FIGURE 34



10 A.M.

SHADOWS FROM EXISTING BUILDINGS ☐

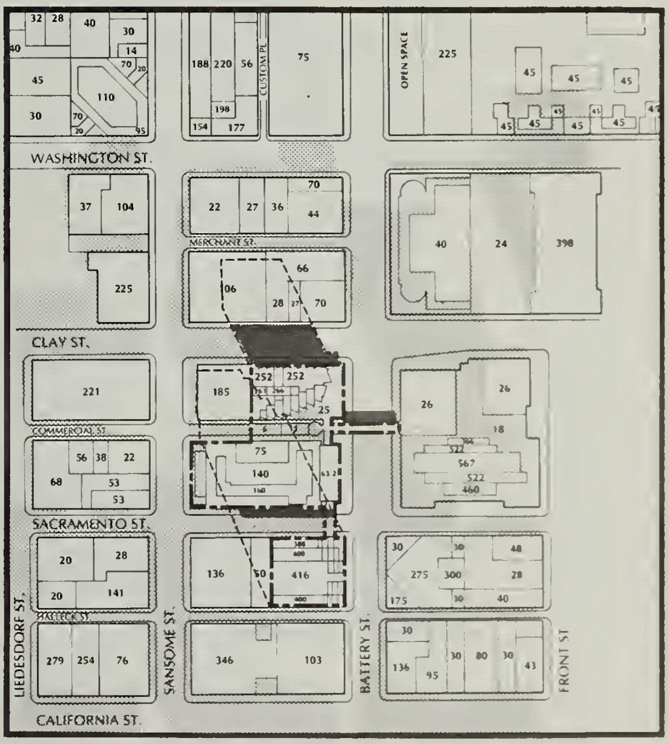
NEW SHADOWS FROM PROPOSED PROJECT ■

PROJECT SITE BOUNDARY - - —— -

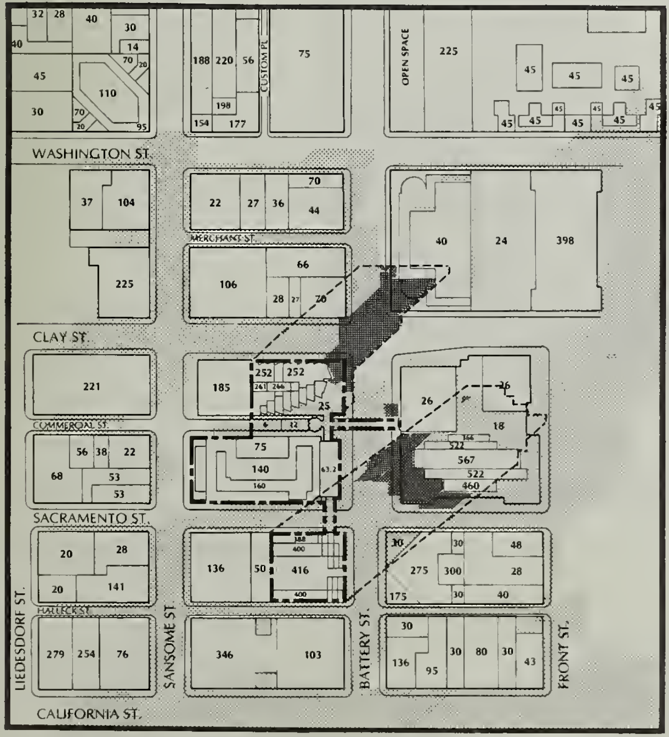
OUTLINE OF PROJECT SHADOW (Flat Plane) - - - - -

SOURCE: EIP CORPORATION

FEET 0 100 200 400



12 Noon



3 P.M.

OPEN SPACE AREAS

A — REDWOOD PARK

B — SANSOME STREET STEPS

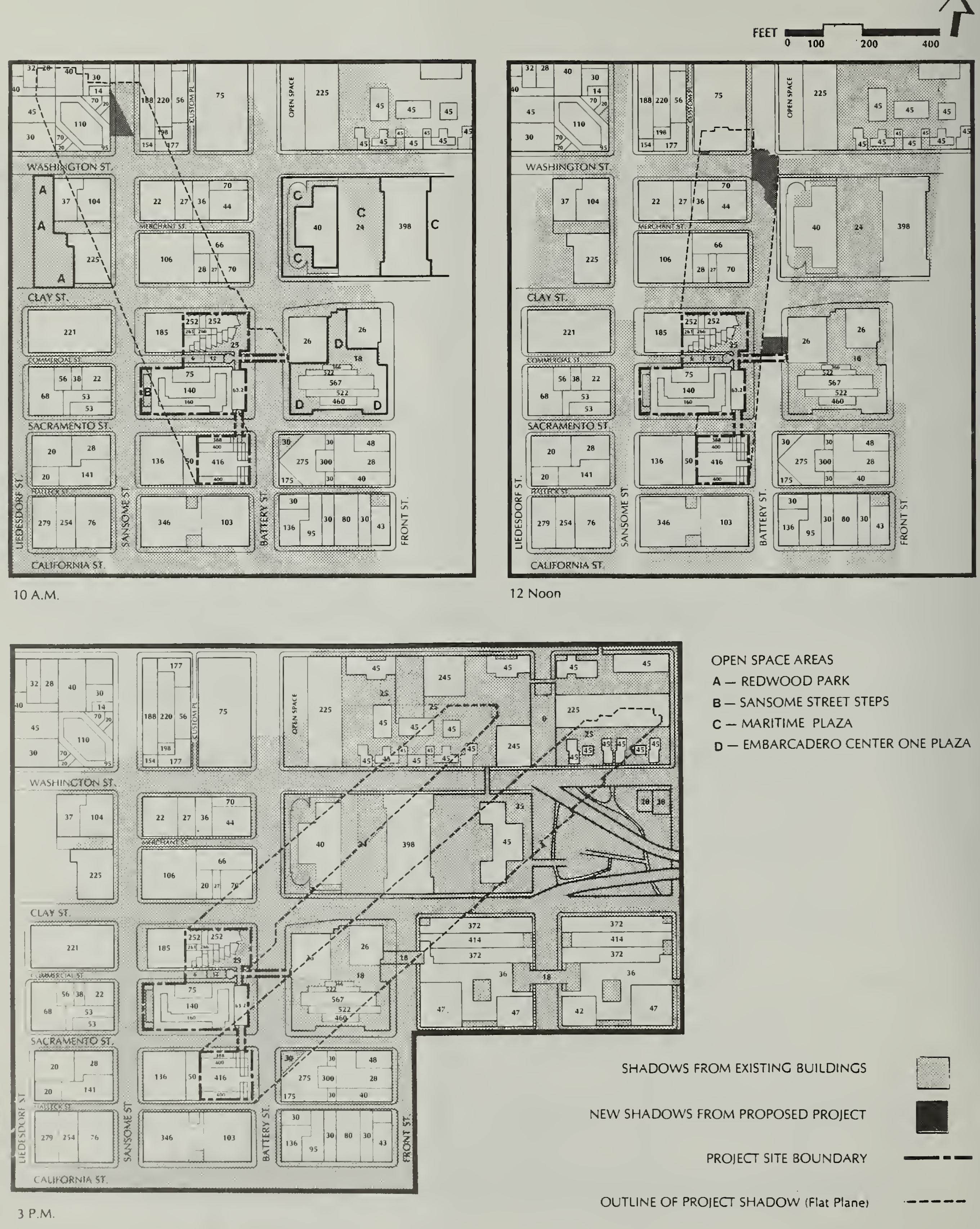
C — MARITIME PLAZA

D — EMBARCADERO CENTER ONE PLAZA

SHADOW PATTERNS: DECEMBER 21, PST

FIGURE 35

SOURCE: EIP CORPORATION



10 A.M.

12 Noon

3 P.M.

At 10 a.m. on September 21, the project would add shadows to a section of Clay Street opposite Parcel 1. At noon on September 21, the hotel on Parcel 1 would add shadows to Clay Street and its sidewalks while the pedestrian bridge would shade a small portion of Battery Street and adjacent sidewalk areas. At 3 p.m. on September 21, the project would add shadows to Clay and Battery Streets, to about 4% of the Maritime Plaza at the corner of Clay and Battery Streets, and to about 23% of the One Embarcadero Center plaza at the corner of Sacramento and Battery Streets. A portion of the east side of Battery Street at Clay and the sidewalk adjacent to One Embarcadero Center would be shaded at 3:00 p.m.

At 10 a.m. on December 21, the project would add about a 100-foot length of shadow to Sansome Street and its adjacent west sidewalk north of the intersection of Sansome and Washington Streets. At noon on December 21, the project would cast a shadow at the intersection of Battery Street and Washington Street. A 50-foot length of new shadow would be cast by the proposed pedestrian bridge on Battery Street at this time. At 3 p.m., no new shadows would be cast by the project on Maritime Plaza or the Embarcadero One Plaza.

Shadow impacts on the Alcoa Building's Maritime Plaza (which is under the jurisdiction of the Recreation and Parks Department and privately maintained) and One Embarcadero Center plaza can be summarized as follows:

Existing shadows on the Maritime Plaza and the Embarcadero Center One Plaza are primarily caused by 40- to 700-foot tall buildings to the south and west of the plazas. Existing shadow create their worst case effects on December 21, at 3 p.m.

There would be no new shadows cast from the proposed project on either of these plazas at 10 a.m. or noon during any season. No new shadows cast on December 21 at 3 p.m would shade either Maritime Plaza or One Embarcadero Plaza at this time. On June 21 at 3 p.m., the project shadows would affect a portion of the sidewalk on the north side of Sacramento Street adjacent to One Embarcadero Center. New shadows would also appear on the sidewalk at the southwest corner of the intersection of Clay and Battery Streets.

Worst-case project shadow impacts on these plaza areas would occur on March 21 and September 21 at 3 p.m. On March 21, the hotel on Parcel 1 would add shadows to about

3% of Maritime Plaza at the plaza's southwest corner, and the Parcel 3 office tower would add shadows to about 18% of the One Embarcadero Center plaza at the southwest corner. On September 21, the hotel would add shadows to about 4% of Maritime Plaza at the plaza's southwest corner, and the Parcel 3 office tower would add shadows to about 23% of the One Embarcadero Center plaza at the southwest corner.

In June, 1984, the voters of the City and County of San Francisco approved Proposition K, an initiative ordinance prohibiting the issuance of building permits for structures that will shade property under the jurisdiction of the Recreation and Parks Commission, unless the City Planning Commission determines that such shade would have an insignificant adverse impact on the use of such property. One Embarcadero Center Plaza is privately owned, and thus not subject to the provisions of Proposition K. Maritime Plaza is under the jurisdiction of the Recreation and Parks Commission, and privately maintained. The project is exempted from Proposition K. The ordinance exempts:

> "projects for which a building permit application and an application for environmental evaluation have been filed prior to March 5, 1984 and which involve physical integration of new construction with rehabilitation of a building designated as historic either by the San Francisco Board of Supervisors as a historical landmark or by the State Historic Preservation Officer as a State Historic Landmark, or placed by the United States Department of the Interior on the National Register of Historic Places and which are located on sites that, but for separation by a street or alley, are adjacent to such historic building."[1]

The Downtown Plan includes sun access criteria to allow direct sunlight to reach sidewalk areas of designated streets during critical hours of the day. In the case of sidewalks, the critical hours are considered to be the hours around noon. Within the project area the Downtown Plan shows Front Street between Sacramento and California Streets[2] as part of a Conservation District where the present scale of development, degree of sky exposure, and amount of sunlight reaching the street are to be preserved.[2] The proposed project would not cast shadows on Front Street, portions of which would continue to be shadowed by existing buildings.

The project would not cast shadows on the Sansome Street steps of the Federal Building at noon or during the afternoons. These steps are used by workers for sitting areas during the noon hour. Morning shadows are cast on the steps by existing buildings. The project would cast shadows on a portion of its own open space on Parcel 1 at 3 p.m. on June 21.

The proposed project would not cast shadows on Redwood Park east of and adjacent to the Transamerica Pyramid, and would not cast shadows on Portsmouth Square on Kearny Street between Washington and Clay Streets, on Saint Mary's Square at Kearny and California Streets, or any other property affected by Proposition K.

2. Skyplane Exposure

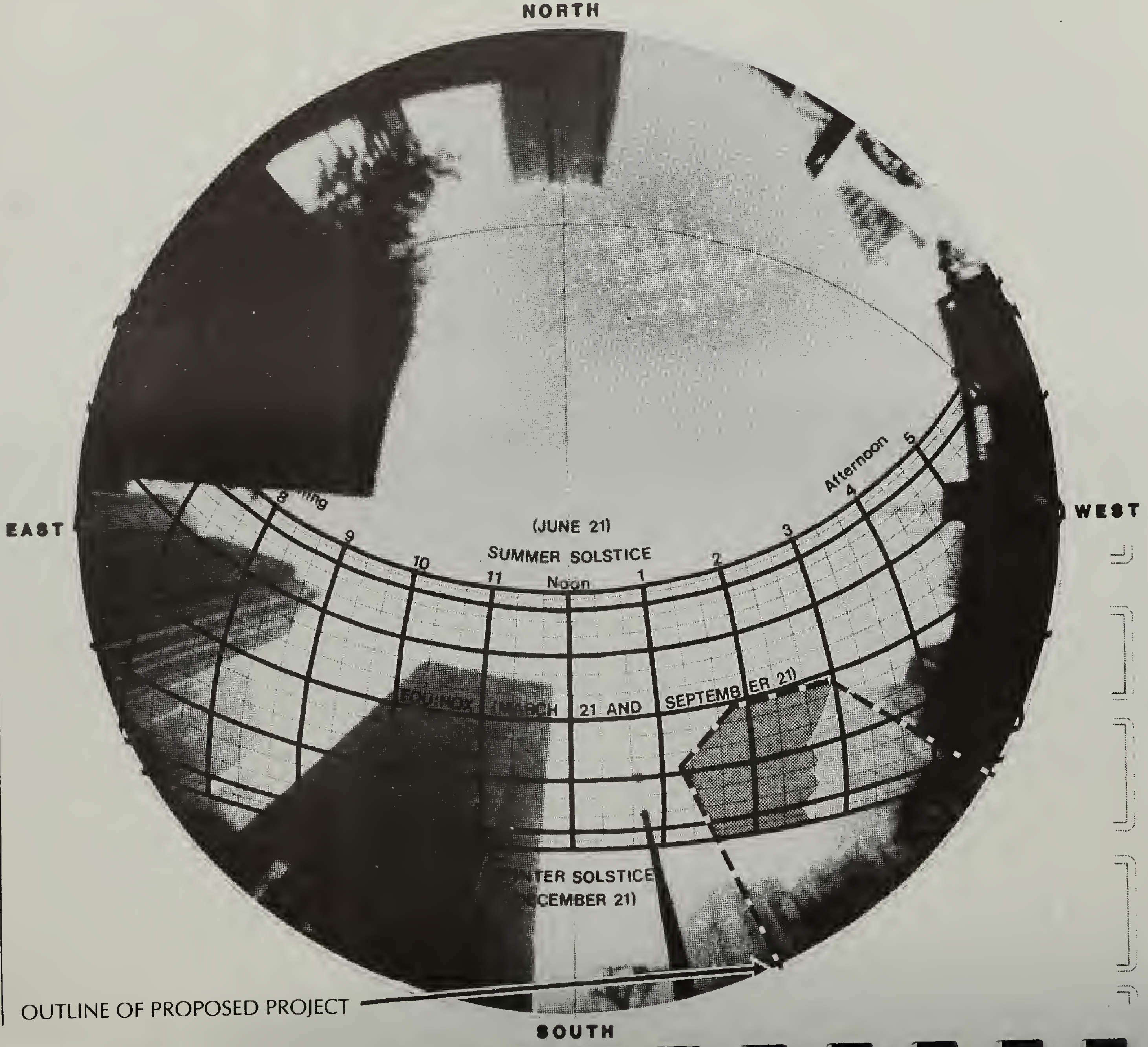
Analyses of sunlight duration were prepared for three locations near the project site (see Figures 36 through 38, pages 114 through 116). Diagrams of the sun's yearly path are superimposed on fish-eye lens photographs of the sky. This technique accurately depicts the times of the year and day that direct sunlight reaches a location, but creates an exaggerated image due to the distortion inherent in using a fish-eye lens. Local solar time, similar to Pacific Standard Time (PST), is used. During the time of year that Pacific Daylight Time (PDT) is in effect, the sun location would be comparable to one hour earlier than shown on Figures 36 through 38. This technique differs from the shadow pattern analysis in that it does not predict the extent of shadow but the duration of sunlight at a specific location.

At the southwest corner, podium level of Maritime Plaza, (see Figure 36, page 114), the hotel highrise on Parcel 1 would reduce sunlight in fall and winter from about 1:30 to 3:00 p.m., PST. Sunlight duration would thus be reduced by about 1.5 hours per day. Figure 37, page 115 shows a skyplane exposure at the southwest corner of the One Embarcadero podium level. Fall and winter sunlight reduction would last from two to three hours in the afternoon. Afternoon sunlight duration would be reduced by one to two hours in early spring and late summer.

At the Battery/Sacramento Street intersection (see Figure 38, page 116), sunlight duration would be reduced in all seasons. In the spring and summer, sunlight would be reduced by up to 2.5 hours in the afternoon (from about 12:30 p.m. to 3:00 p.m.). In fall and winter, the project would eliminate sunlight access at that intersection from about 12:30 p.m. to 3:30 p.m., or about three hours.

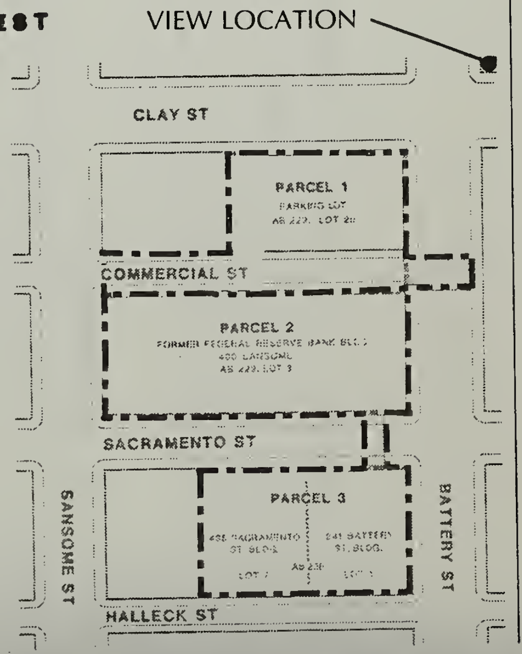
FIGURE 36

SKYPLANE EXPOSURE FROM SOUTHWEST CORNER OF MARITIME PLAZA, PODIUM LEVEL



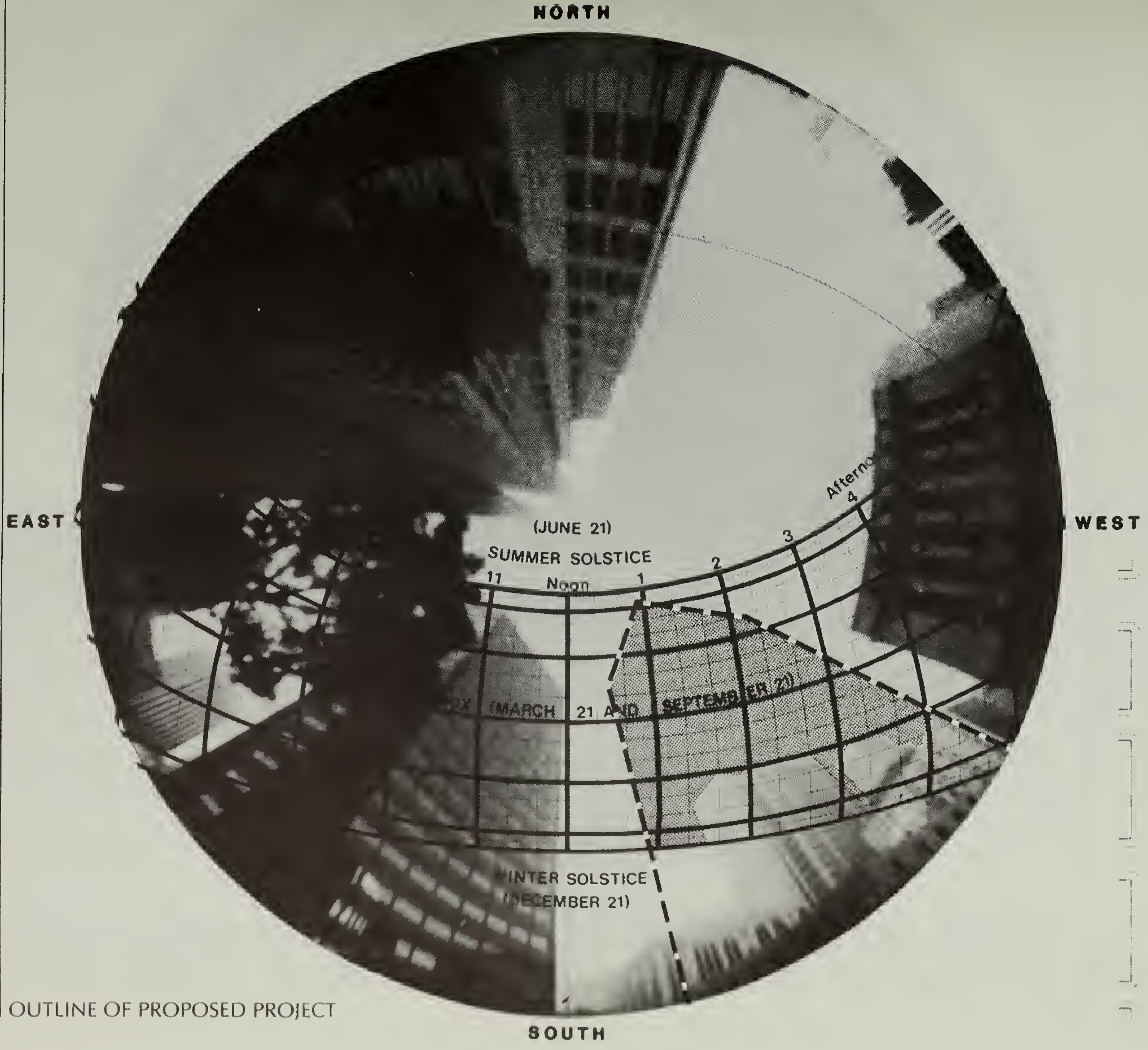
AREA OF SUN PATH NEWLY AFFECTED BY PROPOSED PROJECT ▨

SOURCE: DON BALLANTI



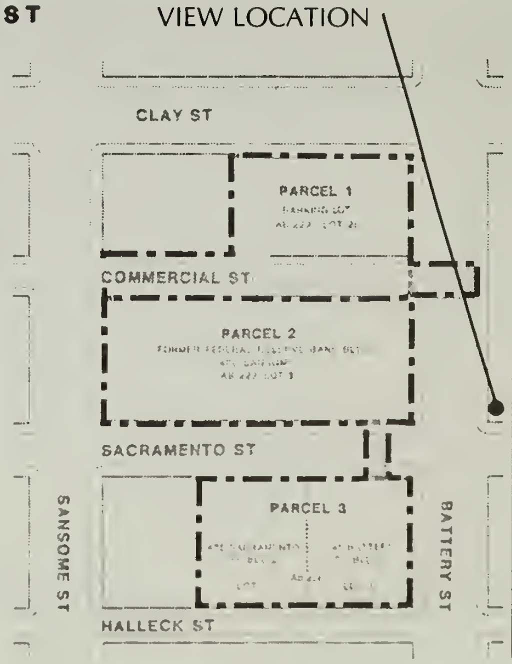
SKYPLANE EXPOSURE FROM SOUTHWEST CORNER OF ONE EMBARCADERO, PODIUM LEVEL

FIGURE 37



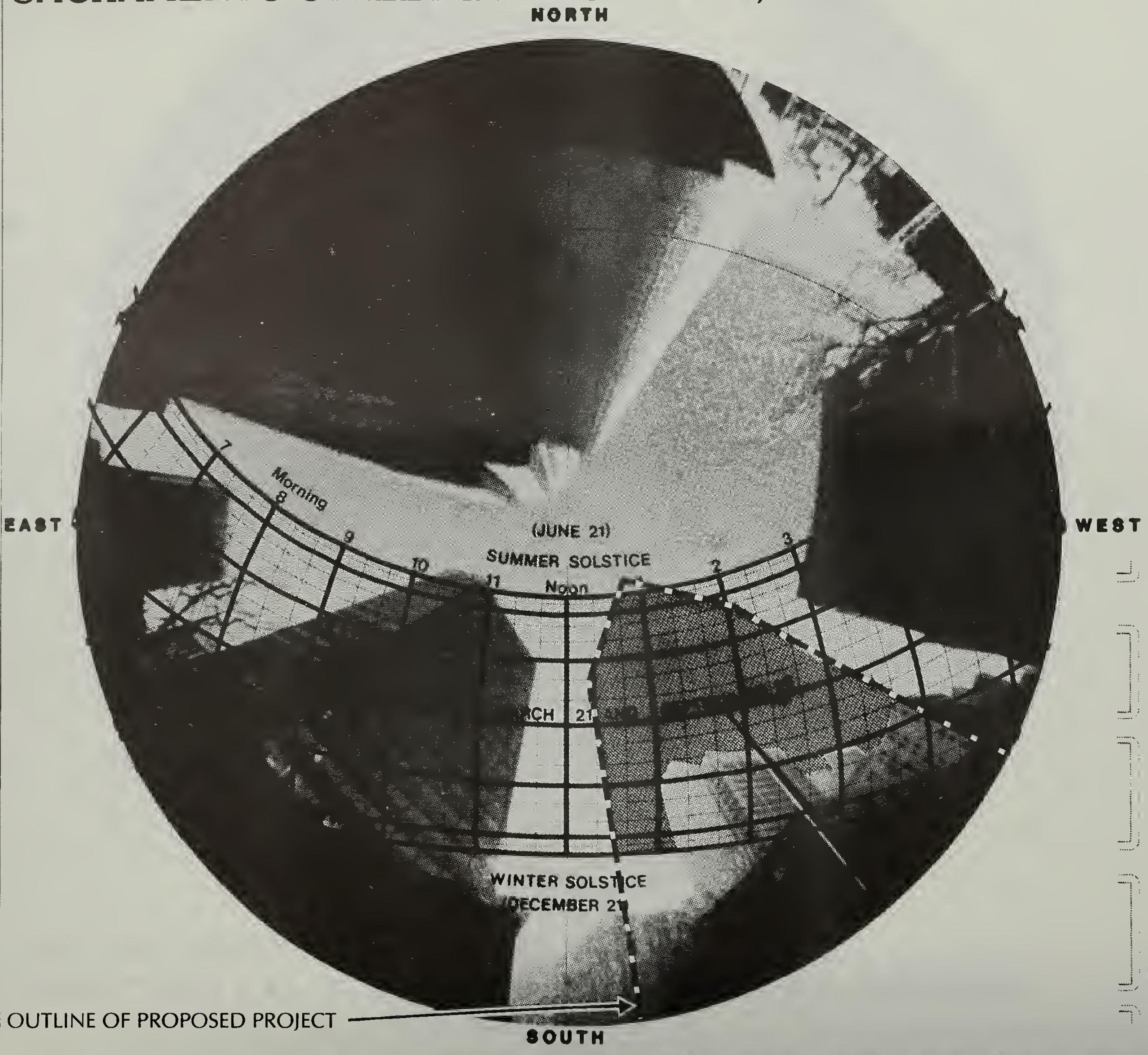
AREA OF SUN PATH NEWLY AFFECTED BY PROPOSED PROJECT ▨

SOURCE: DON BALLANTI



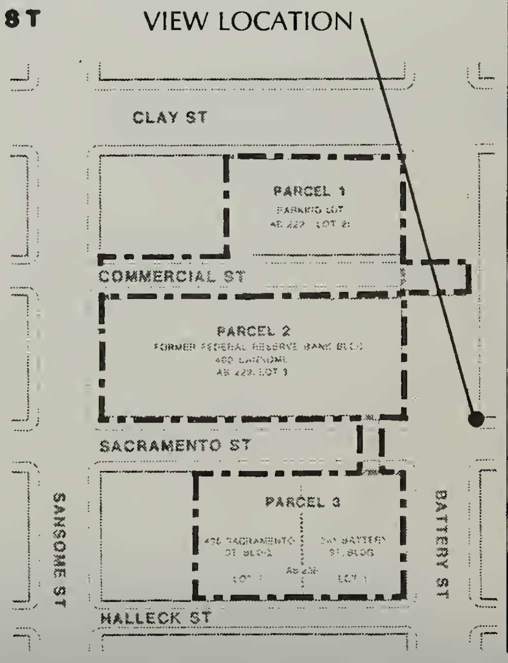
SKYPLANE EXPOSURE FROM NORTHEAST CORNER OF BATTERY/ SACRAMENTO STREET INTERSECTION, STREET LEVEL

FIGURE 38



AREA OF SUN PATH NEWLY AFFECTED BY PROPOSED PROJECT ▨

SOURCE: DON BALLANTI



3. Wind[3]

San Francisco's climate is dominated by sea breezes characteristic of marine climates; there are few extremes of heat and cold. The warmest month is September with an average daily maximum of 69 degrees; the coldest is January, with an average daily maximum of 56 degrees. The prevailing wind direction in San Francisco is westerly; southwesterly and northwesterly winds are also frequent.

Winds in San Francisco are generally strongest in the summer. Summer winds are from the northwest, west and southwest about 97% of the time, with a mean speed of 8 mph. Wind tunnel tests were conducted for these three most common wind directions (the portions of the Microclimate Impact Study discussed in this section appear as Appendix C, page A-38). Wind tunnel information was combined with wind records to predict average windspeeds at locations around and within the project site. The average windspeeds were compared to criteria for pedestrian comfort and pedestrian hazard. Physical effects that cause physical discomfort are windblown dust, the blowing of hair and flapping of clothes, and interference with contact lenses, for example. These effects occur with 11 mph windspeeds. Windspeeds of 35 mph can unbalance an elderly person, and therefore represent a hazardous condition. Wind tunnel tests conducted for the project indicate that existing windspeeds along streets near the site average from 3 to 5 miles per hour on summer afternoons (the windiest time of the year on the average). The highest average windspeeds were found along Sacramento and Halleck Streets.

Existing winds near the project site were found to be below both the 11 mph comfort, and 35 mph hazard criteria. Existing windspeeds were found to average 3.5 mph for northwest winds, 5 mph for southwest winds, and 4.5 mph for west winds.

The proposed project would increase northwest winds along Halleck and Commercial Streets and portions of Sansome Street by as much as 3 mph at some locations; northwest winds would be generally reduced along Battery Street, including its intersection with Commercial Street (see Figure C-2, page A-41). At no point would northwest winds exceed the 11 mph comfort criterion, or the 7 and 11 mph standards in ordinances to implement the Downtown Plan (see page 118).

The project would accelerate west winds along Halleck, Sacramento, and Clay Streets, as well as Commercial Street within the project site, by an increase of about 1.0 to 7.9 mph (see Figure C-3, page A-42). The 11 mph criterion would be exceeded along the south side of Halleck Street adjacent to the project where a maximum 12.7 mph wind would occur (see also Appendix C, Figure C-1, page A-39). This wind acceleration would apparently be due to the proposed highrise on Parcel 3 and its interaction with the existing buildings south of the structure. Winds on Commercial Street would not exceed the 11 mph standard of the Downtown Plan ordinance, but would exceed the 7 mph standard for sitting areas (to 7.3 mph at mid-block) in that segment of Commercial Street within the project site that would be changed to a landscaped pedestrian area with areas for sitting. At no point would west winds exceed the hazard criterion.

The exceedances of the comfort criterion predicted for west winds along Halleck Street would apparently be caused by the interaction between the proposed Parcel 3 building and existing buildings. The narrowness of the streets also contributes to the "funneling" of west winds between the buildings. Design changes to the building on Parcel 3 to improve wind conditions at these locations would involve reducing the extent and "bluffness" of the building's westerly facade. A narrow west facade, or a complex west facade with additional setbacks and cutouts at lower levels, would intercept less wind and have less of a tendency to accelerate ground-level winds. Reductions in height alone are not likely to change wind accelerations greatly. Different tower shapes would reduce ground-level winds, particularly if the area and extent of the west facade were reduced by aligning the tower's long axis east-west, as for the proposed building on Parcel 1.

Southwest windspeeds would be increased by as much as 3 mph near the proposed highrise on Parcel 3, at two corners of Clay and Battery Street intersection, at the southeast corner of the Clay and Sansome Street intersection, and along the east side of Battery Street adjacent to Embarcadero One (see Figure C-4, page A-43). Southwest winds would be generally reduced elsewhere near the project site. The 11 mph criterion would not be exceeded, but winds near the proposed bridge over Battery Street would increase from about 5 mph to about 8 mph.

The project would meet the Downtown Plan wind standard for pedestrians except for part of the south side of Halleck Street between Sansome and Battery Streets for west winds, as discussed above. The project would not cause winds to exceed the proposed 7 mph comfort standard for sitting areas at the steps of the Federal Reserve Bank on Sansome Street, Maritime Plaza, or the Embarcadero One Plaza. Winds on Commercial Street would increase to 7.3 mph at mid-block, exceeding the 7 mph comfort standard for sitting areas.

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[1] City and County of San Francisco, Park Shadowing Initiative Ordinance, adopted June 5, 1984.

[2] City and County of San Francisco, Department of City Planning, The Downtown Plan, Proposal for Citizen Review, August 1983, revised November, 1983, and amended June, October, and November, 1984, page 76.

[3] This section is based upon a report entitled Microclimate Impact Study for the Embarcadero Center West Project, dated September 23, 1984, prepared by Environmental Impact Planning Corporation, and correspondence from Donald Ballanti, Certified Consulting Meteorologist, dated September 23, 1984. Both of these items are available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister Street, San Francisco.

E. TRANSPORTATION

TRAVEL DEMAND ANALYSIS

Project Travel Demand

Based on City guidelines and Caltrans trip generation research, the project travel has been calculated in Table 5, page 121 .[1,2] The project would generate a net increase of about 23,997 person trips daily: about 2,213 during the p.m. peak hour and 3,954 during the peak two-hour period. A total of 1,624 outbound trips would occur during the peak hour and 2,804 trips during the peak two-hour period. The geographical and modal distribution of project travel (Table 6, page 122 has been based upon projected modal splits for the year 2000 contained in the EIR for the Downtown Plan (EE81.3).[3]

Modal assignments have been made on the basis of future modal splits for the year 2000 contained in the EIR for The Downtown Plan (EE81.3).[4] The future modal splits have been applied to the project travel for the purpose of comparing project travel with future travel demand on the transportation system serving San Francisco. The modal splits used were derived from aggregate data for the C-3 District, the zoning district that contains the project site, and thus represent an average condition. The actual modal split for travel from the project may vary from the C-3 District average. However, because the travel demand forecasts used to derive the average modal split data include the travel from the project, application of the average modal split data to project travel appears to be sufficiently accurate for purposes of comparison.

Cumulative Travel Demand

Analysis of the transportation impacts of cumulative development in San Francisco EIRs has been the subject of considerable public discussion. To date, cumulative analysis has been conducted on the basis of based on a list of proposed development in the greater downtown area (see Appendix E, page A-48, for the March 10, 1984 list of these projects). The Downtown Plan EIR method is presents a refinement of the transportation analysis existing process that uses in which projections of employment growth, independent of a list of proposed projects, are used to project future travel.[5]

TABLE 5

NET NEW PROJECT PERSON TRIP GENERATION[1,2,3]

Land Use	Daily Trip Rate	Daily Trips	Peak-Period Trips (1-hr/2-hr) Total	Peak-Period Trips (1-hr/2-hr) Outbound
330-room hotel (bedrooms)	15.5/bedroom[3]	5,115	363/726	218/436
35,185 gross sq.ft. restaurant area	130/1,000[2]	4,574	366/732	155/310
24,315 gross sq.ft. retail area	150/1,000[1,2]	3,647	365/729	190/379
589,000 gross sq. ft. net new office area	18.1/1,000[3]	10,661	1,119/1,767	1,063/1,679
	NET TOTALS	23,997	2,213/3,954	1,626/2,804

5,115 daily hotel trips = 409 work trips[3] + 4,706 non-work trips

4,574 daily restaurant trips = 183 work trips + 4,391 non-work trips

3,647 daily retail trips = 146 work trips[4] + 3,501 non-work trips

10,661 daily office trips = 4,264 work trips + 6,397 non-work trips

NET TOTALS 5,002 work trips 18,995 non-work trips

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[1] Institute of Transportation Engineers, Trip Generation, 1979, not paginated.

[2] Caltrans, Eleventh Progress Report on Trip Ends Generation, July 1976, pages 167, 168, 171 and 174.

[3] Department of City Planning, Guidelines for Environmental Review: Transportation Impacts, November 1984.

[4] Based upon one retail employee per 350 gross square feet and one office employee per 275 gross square feet as outlined in the City's Guidelines.

TABLE 6

DISTRIBUTION OF NET NEW PROJECT PERSON TRIPS OUTBOUND DURING PM PEAK PERIOD

	Peak-Period Person Trips (1-hr/2-hr)		
Location and Mode	Work	Non-Work	Total[1]
San Francisco			
Auto	173/280	13/26	186/307
Muni			
NE	27/69	32/59	59/128
NW	104/167	5/9	109/176
SW	91/182	9/16	100/198
SE	18/41	9/16	27/57
BART	29/55	5/13	34/67
Walk	46/95	386/755	432/850
Other	9/20	--/4	9/24
	498/908	460/899	958/1,807
East Bay			
Auto	93/110	9/18	102/128
BART	178/274	22/42	200/317
AC	62/104	---	62/104
Other	3/3	---	3/3
	335/492	31/61	366/552
Peninsula			
Auto	79/120	3/8	82/127
BART	35/41	4/8	39/49
Samtrans	20/37	---	20/37
SP	29/32	8/15	38/47
Other	4/14	---	4/14
	166/244	16/31	182/274
North Bay			
Auto	38/45	5/14	43/59
GGT Bus	54/83	5/6	59/89
GGT Ferry	10/12	---	10/12
Other	9/11	---	9/11
	111/151	10/20	121/171
	1,109/1,794	517/1,010	1,626/2,804

Source: Department of City Planning, Office of Environmental Review (OER), Downtown Plan, EIR EE81.3, certified October 18, 1984, on file at OER.

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[1] Numbers may not total precisely because of rounding.

As discussed in Appendix J of the Downtown Plan EIR, transit service improvements have been assumed to be implemented by the year 2000. The service improvements assumed to occur correspond to the vehicle acquisition portions of the 5-Year Plans for Muni, AC Transit, SamTrans, CalTrain, and Golden Gate transit. In BART, both the vehicle acquisition program and the trackage improvements (Daly City tail track) were assumed to occur. These planned improvements would allow system capacities to keep pace with demand increases over time. The Downtown Plan EIR transportation analysis also assumes that regional auto use will continue to change over time in response to increasing levels of congestion on the bridges and freeways serving the City. The analysis projects a shift from single-occupant auto use (drive alone) for commuting to ridesharing (carpool, vanpool) and to transit use. The assumptions of continuing shift from auto to transit and ridesharing, most apparent in the 2000 modal splits, are made on the basis of long-term trends in transit use in the San Francisco commute corridors. Census data show that in the period 1970 to 1980, transit use for commuting increased. Similarly, Bay Bridge data show that ridesharing has been increasing over the last seven years. Thus, the shift to transit and ridesharing is well-established in San Francisco commute corridors.

The travel data presented in the Downtown Plan EIR transportation sections (and in this report) are projections of total demand on the transportation system serving San Francisco. The projections comprised of three components of travel demand. Two of the components were developed through an intricate travel modeling process for the C-3 District of San Francisco. These first two components of travel demand are C-3 District work (employee journey-to-work) travel and C-3 District non-work (all other) travel. The third component is non-C-3-District travel, which was forecast through an analysis of regional trends adjusted for the effect of development in the C-3 District. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region. Employment projections are not specifically used in the non-C-3 travel analysis.

For future years, the C-3 travel modeling process was modified to incorporate changes in travel patterns (modal split changes, different travel times), employee residence patterns and changes in land use patterns. The process incorporates the dynamic aspects of changing Bay Area travel patterns, rather than assuming a fixed, unchanging condition over time. An example of past changes in travel patterns can be seen in the amount of carpooling activity on the Bay Bridge. In 1977, peak average vehicle occupancy westbound on the bridge was 1.7 persons per vehicle. By 1983, in response to increasing congestion and increased travel and parking costs, peak average vehicle occupancy westbound increased to 2.1 persons per vehicle.[6]

The non-C-3 travel demand was forecast through the use of growth factors developed on the basis of historic trends in regional and sub-regional travel.[7] Historic growth rates (factors) have been used to project increases only for non-C-3 District travel at the regional screenlines. No other use of historic growth rates has been made in the transportation analysis. Because of the individual and unique nature of each of the transportation screenlines, each growth rate is based on data for that location. Thus, the growth rates for freeways project growth in auto trips, while the growth rates for transit project growth in ridership.

Each of the historic growth rates inherently contains information about regional growth in travel patterns and thus incorporates not only growth from other parts of San Francisco, but from elsewhere in the region. As an example, the historic growth factor for trips southbound on US 101 includes travel that crosses the Bay Bridge or the Golden Gate Bridge as well as travel from San Francisco. However, the growth is projected as growth in auto travel and cannot be related directly to growth in employment in San Francisco.

The other process used to forecast cumulative transportation impacts starts with a list of cumulative office and retail development (net new office and retail space) proposed, approved or under construction in the greater downtown area. From that list, through the use of static employment densities for office and retail uses and established trip generation rates, forecasts of travel demand are made. The forecast travel is assigned to modes on the basis of modal split factors (which are assumed not to change over time). The Transportation Guidelines for Environmental Impact Review: Transportation

Impacts (Department of City Planning, September 1983, hereinafter Transportation "Guidelines") describe the process and the data used to calculate transportation impacts from the list-based development.

The current list, shown in Appendix E, has about 19 million gross sq.ft of net new office space and about 0.9 million gross sq.ft. of net new retail space. On the basis of the Transportation Guidelines analysis, the list-based development would generate approximately 80,000 p.m. peak-period person trip-ends, of which about 49,000 would occur in the p.m. peak hour. Table 7, page 128 shows a comparison of the projections of travel demand from the list-based analysis and from the Downtown Plan EIR for the year 2000. While the list contains development both inside and outside the C-3 District, the Downtown Plan EIR makes specific projections only for C-3 District development and the travel components shown in Table 7 are for the C-3 District only; therefore, for purposes of comparision, travel from the C-3 component of the list (about 13 million gsf of net new office space and 0.4 million gsf of retail space) has been analyzed for comparison with the projections from the Downtown Plan EIR for Alternatives 1 to 5 and the Downtown Plan.

As shown in Table 7, travel demand from the Alternatives in the Downtown Plan EIR ranges from Alternative 1 (about 17% higher than the Downtown Plan) to Alternative 4 (about 5% lower than the Plan). Although there is a range, the spread is within the level of accuracy of the transportation analysis and thus, statistically, the transportation impacts of the Alternatives are equivalent to those of the Downtown Plan. Several anomalies are apparent in the data shown in Table 7. The major anomaly is that, while the C-3 component of the list would generate about half as much travel as do the Downtown Plan and the five Alternatives, the list-based analysis yields travel demands within San Francisco (inside and outside the C-3-District) that exceed those generated by the Downtown Plan and the Alternatives. An explanation of this major anomaly is presented in the following paragraphs.

TABLE 7

COMPARISON OF LIST METHOD AND ECONOMIC FORECAST METHOD - OUTBOUND P.M. PEAK-HOUR CUMULATIVE TRAVEL DEMAND FOR THE C-3 DISTRICT

	March 10, 1984 Cum. Dev. List[1]	Downtown Plan (1984-2000)[2]	Alternative 1 (1984-2000)[2]	Alternative 2 (1984-2000)[2]	Alternative 3 (1984-2000)[2]	Alternative 4 (1984-2000)[2]	Alternative 5 (1984-2000)[2]
Work Person Trips	22,100	41,400	47,600	46,200	44,400	39,100	39,700
Other Person Trips	8,200	12,100	14,700	14,200	13,400	11,800	11,800
Total Person Trips	30,300	53,500	62,500	60,500	57,900	51,000	51,600
Muni							
Northeast	900	1,600	1,700	1,600	1,600	1,700	1,700
Northwest	3,700	1,800	2,000	1,900	1,800	1,800	1,800
Southwest	3,100	1,100	1,100	1,000	900	800	800
Southeast	600	1,100	1,000	1,000	1,000	600	700
BART							
Transbay	4,500	11,800	13,300	13,100	12,700	11,300	11,300
Westbay	1,900	2,400	2,800	2,700	2,600	2,300	2,300
AC Transit	1,700	200	600	500	300	-100	-100
GGT							
Bus	1,100	3,200	3,700	3,600	3,500	2,700	3,100
Ferry	300	800	800	800	800	800	800
SamTrans	300	1,200	1,300	1,300	1,200	1,000	1,100
SPRR/CalTrain	500	1,800	2,000	1,900	1,800	1,700	1,700
Regional Auto[3]							
Golden Gate Bridge	370	410	630	590	540	390	370
Bay Bridge	960	1,250	1,550	1,540	1,510	1,060	1,110
Bayshore Fwy (U.S. 101)	420	470	650	620	590	400	400
Interstate 280	420	470	650	620	590	400	400

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[1] Travel from only those listed projects that are located inside the C-3 District. The list also contains development located in the greater downtown area outside the C-3 District; travel from those projects has been included in the list-based travel shown in the remainder of this section.

[2] Travel from the C-3 District only. The analysis used in the Downtown Plan DEIR assumes regional travel growth not shown in the above data but discussed in the remainder of this section.

[3] Vehicle trip-ends; calculations made on the basis of 2.7 persons per carpool and 12 persons per vanpool. Person tri-ends on transit cannot be added to vehicle trip-ends to obtain total peson trip ends because of the varying numbers of persons per vehicle.

Source: Environmental Science Associates, Inc.

The difference in total travel results in part from the different time frames of the list and the Downtown Plan EIR. The Downtown Plan EIR established 1984 as the baseline year and 1990 and 2000 as target study years. Estimates of growth were made on the basis of projections for each of the target years for the range of alternatives. In contrast, the projects included on the Cumulative List span a period from 1984 to sometime in the early or mid-1990's, when completion of all projects on the list or a similar amount of square footage would be expected.[8] This is one of the major reasons why results of impact analyses using these two forecasting methods are not directly comparable.

The March 10, 1984 cumulative list includes Embarcadero Center West, with 382,000 gross square feet of net new office space, subtracting formerly occupied office space on the site. The project would include 589,000 gross square feet of net new office space, assuming vacant site buildings. Thus, the number given on the list is lower. The difference would not be statistically significant and would, therefore, not change the results of the overall analysis.

The variations in travel by trip purpose (work, other) and by travel mode (as shown in Table 7) between the list-based method and the Downtown Plan EIR method can be explained by differences in the methodologies and data bases used to forecast the travel demand. The list-based analysis employs single-use trip generation data to estimate total travel through the process of adding together the trip generation estimates from all the individual buildings on the list. These single-use trip generation rates do not incorporate any discounting factors to account for trips going from one building to another within the Downtown. Studies for the Downtown Plan EIR have confirmed that there is considerable travel between land uses in the downtown area. Thus, the list-based analysis adds each trip as if it were a new trip in or out of the downtown and overestimates the total number of peak-hour trips.

The Downtown Plan EIR travel demand model has refined the trip generation process by incorporating discounting factors that adjust the trip generation rates to give travel to and from the C-3 District as a whole; it does not include trips internal to the C-3 District. Although the Downtown Plan EIR process predicts proportionately more work travel than does the list-based analysis, observations show that the Downtown Plan EIR forecasts more closely resemble actual travel demand that would result from downtown development.

The differences in distribution of travel among modes (shown in Table 7) are the products of refinements in the regional distribution and modal split analyses in the Downtown Plan EIR process. The list-based analysis assumes a static (unchanging over time) regional distribution and static modal splits. The Downtown Plan EIR analysis has incorporated changes in both the regional trip distribution (reflecting projected availability of housing) and the modal splits (reflecting projected availability of roadway and transit capacity in the future).

The list-based analysis shows more San Francisco travel (as shown by larger Muni numbers for the list-based analysis in Table 7) than does the Downtown Plan EIR analysis, because the Downtown Plan EIR analysis projects a declining availability of housing in the City. Thus, as the downtown work force increases, the percentage of workers living in San Francisco would decrease. The list-based analysis assumes that the percentage of workers living in San Francisco would remain constant over time and thus overestimates the number of future employees living in the City and underestimates the number of regional commuters.

Other differences in travel among the modes, particularly regional auto and AC Transit, are the result of the refined modal split process used in the Downtown Plan EIR. As the list-based analysis assumes that modal split remains constant over time, the list-based analysis is insensitive to the abilities of transit agencies and regional roadway systems to serve future demand. The Downtown Plan EIR analysis has assumed that the modal split would change over time in response to the increasing levels of congestion at the regional screenlines (described in the Downtown Plan EIR). Thus, because the Bay Bridge is at or near capacity in the p.m. peak hour eastbound, the Downtown Plan EIR modal split projects a proportionately lower increase in auto demand to the East Bay than does the list-based analysis. Similarly, for AC Transit the Downtown Plan EIR recognizes that current regional transit policy dictates no increases in AC Transit transbay service and thus, the ability of AC Transit to carry additional riders transbay will be restricted in the future. Use of this changing modal split is a refinement that allows the travel model to more accurately forecast travel demand and thus, the Downtown Plan EIR results represent a more accurate level of projection than has been possible using methods and data available to date.

Various other factors cause differences in the travel demand projections between the two approaches. The Downtown Plan EIR and the Consultant's Report on Downtown Growth Management Alternatives (Environmental Science Associates, 1983) contain extensive discussions of the analyses and data used to forecast employment, land use (see Sections cited above) and transportation demand (see Section IV.E and Appendix J of those reports).

TRANSIT

The transit agencies serving downtown San Francisco carry approximately 60% of the peak-period employee work travel, as well as about 20% of the peak-period other travel. P.M. peak-hour and peak-period loadings on the local and regional transit routes were found to be near capacity for some of the routes in 1984 (see Table 8). The values shown in Table 8 are sums over the peak hour and the two-hour peak period. Within the peak hour, there would be periods of time when the loading ratios would be higher than those shown for the hour (peak-of-the-peak conditions). Individual transit vehicle loadings vary on a day-to-day basis because of fluctuations in ridership (demand) and because of variations in operating conditions caused by traffic congestion, equipment availability, and/or system breakdowns. Photographic examples of p.m. peak-hour loadings on Muni vehicles are shown in Appendix B, Figures B-1 to B-2).

The 1981/82 transit ridership and loading data used in the Downtown Plan EIR analysis are summations of actual counts of individual transit lines for that period in time. Calculations are made on the basis of observed operating conditions, as opposed to scheduled operations. Muni supplied the data for the Downtown Plan EIR analysis from its ongoing program of ridership checks. (The data supplied and collected for each transit agency are in the supporting documentation for the Downtown Plan EIR, on file with the Office of Environmental Review, 450 McAllister St., Fifth Floor, San Francisco, CA.)

TABLE 8

OUTBOUND REGIONAL TRANSIT DEMAND AND LEVEL OF SERVICE

Transit Agency	1984			DOWNTOWN PLAN (2000)				1984 + CUMULATIVE LIST			
	Demand	P/S[1]	LOS[2]	Demand	P/S	LOS	Project Percent[3]	Rounded Demand	P/S	LOS	Project Percent[3]
P.M. Peak Hour											
Muni											
Northeast	7,100	1.16	D	8,800	1.05	D	0.7	8,700	1.04	D	0.7
Northwest	8,200	1.26	E	10,100	1.25	D	1.1	12,900	1.59	F	0.8
Southwest	13,500	1.45	E	16,600	1.42	E	0.6	17,500	1.50	E	0.6
Southeast	5,300	1.06	D	7,400	1.01	D	0.4	6,400	0.88	C	0.4
BART											
Transbay	16,100	1.53	F	27,900	1.42	E	0.7	21,900	1.12	D	0.9
Westbay	7,700	1.10	D	10,100	1.06	D	0.4	10,200	1.07	D	0.4
AC Transit	9,100	0.94	C	10,500	1.08	D	0.6	11,300	1.16	D	0.5
GGT Bus	5,300	1.00	C	8,500	0.91	C	0.7	6,800	0.73	B	0.9
GGT Ferry	800	0.57	B	1,500	0.38	A	0.7	1,100	0.28	A	0.9
Tiburon Ferry	200	0.40	A	300	0.60	B	--	200	0.40	A	--
SamTrans	1,900	1.12	D	3,100	1.19	D	0.6	2,300	0.88	C	0.9
CalTrain (SPRR)	3,100	0.61	B	4,900	0.79	C	0.8	3,800	0.61	B	1.0

TABLE 8 (continued)

Transit Agency	1984 Demand	1984 P/S[1]	1984 LOS[2]	Downtown Plan (2000) Demand	Downtown Plan (2000) P/S	Downtown Plan (2000) LOS	Downtown Plan (2000) Project Percent[3]	1984 + Cumulative List Rounded Demand	1984 + Cumulative List P/S	1984 + Cumulative List LOS	1984 + Cumulative List Project Percent
P.M. Peak period											
Muni											
Northeast	12,600	1.06	D	15,500	0.95	C	0.8	15,200	0.93	C	0.8
Northwest	13,100	1.13	D	15,300	1.05	D	1.2	20,600	1.41	E	0.9
Southwest	23,300	1.31	E	28,700	1.29	E	0.7	29,800	1.34	E	0.7
Southeast	9,100	1.00	C	12,100	0.88	C	0.5	11,000	0.80	C	0.5
BART											
Transbay	25,800	1.54	F	44,100	1.40	E	0.7	35,200	1.12	D	0.9
Westbay	11,300	0.80	C	14,600	0.77	C	0.3	15,400	0.81	C	0.3
AC Transit	14,000	0.95	C	17,000	1.16	D	0.6	17,500	1.19	D	0.6
GGT Bus	7,600	0.90	C	12,200	0.81	C	0.7	10,000	0.67	B	0.9
GGT Ferry	1,000	0.56	B	1,700	0.33	A	0.7	1,500	0.29	A	0.8
Tiburon Ferry	300	0.60	B	500	1.00	C	--	400	0.80	C	--
SamTrans	2,900	1.12	D	4,500	1.15	D	0.8	3,600	0.92	C	1.0
CalTrain (SPRR)	4,500	0.68	B	6,200	0.77	C	0.8	5,500	0.68	B	0.9

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[1] Passengers per Seat is the ratio of total demand to seated capacity.

[2] Level of Service is scale ranging from A to F that relates P/S ratios to passenger loading conditions on transit vehicles. (See Table B-2, Appendix B.)

[3] The percent of demand generated by the project.

Source: Environmental Science Associates, Inc.

Muni was involved in the process of verifying the transportation analysis for the Downtown Plan EIR and as a result of that process, approved of the use of Muni data and the projections derived from that data.

The Level of Service concept, similar to that developed for highway operations, has been applied to both bus transit and rail transit. Passengers per seat (i.e., total passengers divided by the number of seats) has been used as the measure of effectiveness to define the various level of service ranges. Table B-3, Appendix B, shows the relationship between Level of Service and passengers-per-seat (p/s) ratios for bus transit systems.

During the p.m. peak hour in 1984, all of the transit agencies were found to be operating in Level of Service D or better, with the exception of BART Transbay where conditions were found to be at Level of Service F, and Muni in the Northwest and Southwest corridors, where operations were found to be in Level E. Although BART is a rail transit service, its cars have a unique seating configuration. The ratio of total capacity to seated capacity for a BART car (about 1.5) is equivalent to the ratio for bus transit; thus the bus transit Level of Service scale is applicable to BART. Level of Service F ("crush" or "jammed" loadings) on BART is in the range of 1.5 to 1.8 passengers per seat. Because BART operates on a centrally controlled system, the "crush" loadings would not increase passenger loading times (which causes deterioration of service) as would be the case on a bus transit system rather, the effects of "crush" loadings on BART would be reflected in increased passenger discomfort.

The rail transit Level of Service scale is based on typical lightrail transit systems for which total capacity is about 2.0 to 2.2 times seated capacity. The rail transit Level of Service scale would be applicable to Muni Metro, which provides about 50% of the seated capacity to the Southwest corridor. Because Metro vehicles can accommodate higher loadings (a ratio of 2.0 passengers per seat) than buses or trolleys (a 1.5 ratio), the Level of Service would be somewhat better than shown in Table 8. An exact estimate of Metro loadings is not possible without analysis of the Metro service separate from the remainder of Muni service to the Southwest; such analysis would be beyond the ability of the travel demand analysis to predict accurately over time, as discussed in the following paragraphs.

With regard to the Muni data presented in Table 8, the Muni routes have been aggregated on a corridor basis and thus include two-directional travel on some routes that serve the Northeast and Southeast corridors. The Muni numbers cannot be added over the corridors to get a total for the system. Neither can capacity be shifted from one corridor to another. For instance, capacity in the Northeast corridor depends, in large part, on capacity that serves the Southeast portion of the City. The 15, 19, 25, 30 30X, 30AX, 30BX, 32, 41, 42 and 47 lines pass through the downtown in two directions. Service on the above lines is interdependent. Thus, increases or decreases in capacity on one of the above lines directly affects service in the opposite direction. Service to the Northeast and Northwest corridors is also interconnected, as lines serving the Northwest must pass through the Northeast corridor and, thus, serve both areas. Muni ridership and capacity have been apportioned between both areas.

Passengers-per-seat ratios are only one measure of adequacy of service. The constraints of operating on heavily used streets in and around the downtown cause transit-vehicle bunching, loss of running time and missed schedules, all of which reduce service, reliability, and ultimately, capacity. In some respects, this would not be evident from simple quantitative analysis. In addition to these inefficiencies inherent within the transportation system, there are other factors which would affect overall transit capacities. These include variability in daily and seasonal ridership for which an absolute capacity must be available, as well as transit riders who remain uncounted because their transit trips both start and end the screenlines used in this analysis. Daily fluctuations in fleet availability also affect system capacity.

Further, policy considerations dictate minimum operating conditions on certain lines; minimum headways that have been established to maintain transit access to areas served by those lines are not warranted on the basis of ridership alone. When averaged together, the ridership data from these lines may slightly distort overall ridership conditions.

P.M. peak-period conditions on transit in 1984 are equivalent to or better than peak-hour conditions. In some cases, where demand remains at peak-hour levels during the two-hour period, the passengers-per-seat ratios in the two-hour period are higher than in the one-hour period. This anomaly is the result of transit agencies' providing express (or additional) service during the peak hour, but not during the entire peak period. An example of this type of operation may be seen on BART, where three extra trains operate in transbay service in the peak hour but not in the rest of the peak period. Another factor involved is the distribution of demand (ridership) at uniformly high levels over the peak period.

Both transit demand and capacity have been assumed to increase during the period 1984 and 2000. The discussions of transit capacity increases for the agencies are based on the Five-Year Plans and Capital Improvement Plans of the various transit agencies; they appear in Appendix J of the Downtown Plan EIR, pages J.25-J.26. This material, which is discussed below and summarized in Table 8, is incorporated by reference. The future capacities were developed by applying percentage increases, expected in the future, to observed existing capacity. Thus, to the extent that the existing conditions contain inherent capacity reduction for missed runs, the future capacity projections have taken into account the inability of the transit systems to provide 100% of scheduled capacity. As noted above, the Muni analysis calculates capacity on the basis of all runs leaving the C-3 District in the p.m. peak. For all of the transit analyses, only peak-direction vehicles are counted.

Future transit demand and loadings for the Downtown Plan in the year 2000 and for 1984-plus-the-Cumulative-List are shown in Table 8 for both the peak hour and the peak period. The transit demand from the project would range between 0.4% and 1.1% of the total peak-hour travel demand on the individual transit carriers in the year 2000.

Peak-hour transit demand on Muni in the year 2000 would increase about 25% over 1984 levels in the Northeast, Northwest and Southwest corridors. Muni demand in the Southeast corridor would increase about 40% between 1984 and 2000. Peak-hour demand on the other agencies would increase between 30% and 70% between 1984 and 2000.

Peak-period increases in demand would be between 15% and 70% during the 1984 to 2000 period. Overall peak-period travel would be expected to increase about 30% between 1984 and 2000. Peak period demand generated by the project would range from 0.3 to 1.2% of the total peak period travel demand. Peak-hour and peak-period passenger loadings would be worse than in 1984, although most systems would operate in acceptable conditions (Level of Service D or better). However, BART Transbay and Muni to the Southwest would be in Level of Service E during the peak hour and the peak period.

Although the data in Table 8, are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. As shown in Table 7, total transit demand under Alternative 1 would be about 12% higher than under the Downtown Plan while transit demand from Alternative 4 would be about 9% lower than the Plan. As noted previously, these differences would not be statistically significant. In terms of Level of Service, the Downtown Plan would be equivalent to the five Alternatives.

It is important to note that the Five-Year Plan improvements for the transit systems are designed both to provide for future demand increases, and to improve service levels from existing conditions. For new vehicle to expand system capacity rather than represent replacement on a one-to-one basis, operating revenues would similarly need to be increased. During the year 2000 peak hour, Muni service to the Southwest and BART service Transbay would exceed the desirable passengers per seat ratios of 1.25 and 1.50, respectively.[9] Although the transit demand in the two corridors in excess of the desirable loadings would be able to be accommodated under crowded conditions and thus would not be excess demand; (that is, not beyond capacity), demand in excess of the desirable loadings would mean that additional transit service over that assumed to occur by 2000 would need to be provided to allow transit operations in the two corridors to meet the goals set by Muni and BART. To meet the goal of 1.25 passengers per seat in the peak hour, Muni would have to increase service by about 14% in the Southwest corridor over the amount of service assumed to occur in 2000. To meet the goal of 1.50 passengers per seat, BART would have to provide a transbay service increase of 14% over the amount of service assumed to occur by 2000.

If transit service were not increased beyond the amounts assumed to occur by the year 2000 in the Downtown Plan EIR, transit operations (in terms of passenger comfort) would be slightly better than 1984 conditions. Peak-hour and peak-period passengers-per-seat ratios would be lower than 1984 ratios even though service (in some corridors) has been assumed to increase as much as 80% between 1984 and 2000.

If the Downtown Plan's Goals regarding increased transit use were achieved, and the proposals in the Plan regarding transit service improvements were to be fully developed and in place, the impacts on transit agencies would be less than described above. If the Goals were achieved, transit agencies would experience greater levels of demand than under this analysis but overall passenger loadings would be lower (and within desirable levels) because of increased transit service availability that would come about if the proposals stated in the Plan are developed. Section V., Mitigation, contains measures that would provide the additional transit service required to mitigate the above impacts.

Also shown in Table 8 is an independent analysis of the conditions that would result from adding travel from the Cumulative List to the 1984 base data, as is specified in the Transportation Guidelines. As noted above, the estimates calculated by adding the travel from the cumulative list to the 1984 base data as note specifically comparable to those from the Downtown Plan EIR method. The project travel would represent about 0.7% of the total travel on transit in the 1984-plus-the-Cumulative-List condition. As noted above, the List-based analysis overestimates the component of travel from San Francisco, as is shown in Table 8 by higher P/S ratios for Muni in the Northwest and Southwest corridors and lower P/S ratios for BART transbay, SamTrans, and CalTrain than under the Downtown Plan EIR method. Under the 1984-plus-the-Cumulative-List conditions, Muni would not meet its service goals in the Northwest and Southwest corridors; this would require additional service increases of 27% and 20%, respectively, to meet Muni's goal of 1.25 passengers per seat in the peak hour. The other transit agencies would meet their service goals under these conditions.

San Francisco Ordinance No. 224-81 requires a project sponsor to contribute funds for maintaining and augmenting transportation service in an amount proportional to the demand generated by the project. The project's contribution under Ordinance No. 224-81 is estimated to be $1,980,000 (see Section IV.I., page 183).

PEDESTRIAN MOVEMENTS

Existing pedestrian flow conditions were surveyed at the intersections of Battery/Sacramento and Battery/California Streets because of the heavy pedestrian traffic and Muni stops (see Appendix B, Page A-30, for definition of pedestrian LOS, and Figure B-4, page A-36). Existing flows are generally in the unimpeded range although midday flows are impeded on the Sacramento and California Street sidewalks and p.m. peak-period flows are impeded on the Battery Street sidewalk (north of Sacramento Street).

The project would generate about 2,495 p.m. peak-hour total pedestrian trips and 3,215 total pedestrian trips during the peak midday hour, (based upon City guidelines[1]). Mid-day pedestrian volumes are generally higher than in the p.m. peak hour. Assuming that one-half of the trips to/from the project's retail area would be within the project or existing pedestrian travel diverted to the project, the project's pedestrian travel would degrade pedestrian flows in the project vicinity changing sidewalk volumes on Battery, Sacramento, and California Streets now in the unimpeded range to the impeded range.

Three pedestrian bridges incorporated into the project design, linking the project, and the project to the existing pedestrian bridge network within Embarcadero Center, could have the effect of reducing sidewalk impacts by providing alternative pedestrian routes.

With cumulative development in the project area, pedestrian flows adjacent to the project would increase by an additional 10%-20% (see Section III.A., Table 3, page 38 for a list of office development in the project vicinity). If existing and project generated pedestrian flows were increased by 20%, pedestrian flows could reach the upper limits of the impeded range, but sidewalks should not become constrained.

The conversion of the portion of Commercial Street within the project site into a full time pedestrian street all day rather than in the noon hour only would differ from guidelines in the Downtown Plan[10] and the San Francisco Center City Pedestrian Circulation and Goods Movement Study.[11] The Downtown Plan designates Commercial Street as a part-time pedestrian street, defined as a street where vehicles are prohibited at certain hours to free street space for exclusive pedestrian use or where adjacent land uses are permitted to expand into public rights-of-way (e.g., restaurants). The proposed project would convert Commercial Street to a landscaped pedestrian throughfare closed to vehicular traffic. This would encourage pedestrian travel between Sansome Street and Battery Street. The eastern half of Commercial Street would become a ramp leading onto a pedestrian bridge over Battery Street, which would connect to Embarcadero Center. The closure of Commercial Street within the project site and conversion to a pedestrian walkway could result in pedestrians crossing Battery Street mid-block rather than crossing at corner crosswalks. A mid-block traffic signal could regulate pedestrian and traffic flows to reduce this potentially hazardous situation (see Chapter V., Mitigation, page 193).

TRAFFIC

The analysis of traffic impacts has been conducted on two levels: one level of analysis considered impacts at the regional screenlines, the second level of analysis considered impacts at intersections in and near the downtown.

Regional Freeway Analysis

Analysis of traffic conditions at the regional screenlines has been conducted for both the p.m. peak hour and the two-hour p.m. peak period. A.m. peak traffic conditions at regional screenlines have the effect of metering the amount of traffic that reaches the downtown from outside of the City. This analysis has considered p.m. peak conditions. P.m. conditions are usually most severe on freeways and streets within San Francisco, whereas a.m. peak conditions are most severe at locations outside the City.

Traffic demands at the regional screenlines in 1984 (see Table 9) during the p.m. peak hour were found to use between 90% and 100% of the available capacity on the freeways and bridges. Although the eastbound capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour demand shown in Table 9 represents the effective eastbound capacity. The volume figures shown in Table 9 for 1984 for the one-hour and two-hour periods are averages of several days; thus, values for individual days may be different than the average.

Peak-hour freeway operating conditions in 1984 were found to be generally in Level of Service D to E conditions, which would indicate unstable flows in the 35 mph to 45 mph range. Table B-4, Appendix B, shows the Level of Service for freeway operations. Peak-of-the-peak conditions within the peak hour were found to be worse than the hourly conditions because of surges in traffic demand during the peak hour. Conditions during the peak-period at the screenlines would be similar to those experienced during the peak-hour.

As shown in Table 9, demand during the peak hour in the East Bay and Peninsula corridors would be expected to increase about 15% between 1984 and 2000. Peak-hour demand in the North Bay corridor would increase by about six percent between 1984 and 2000. The project travel demand, about 116 p.m. peak-hour and 180 peak-period outbound regional vehicle trip-ends would represent about 0.3% of the total demand in the year 2000. Both the East Bay and Peninsula corridors would have excess peak-hour demand that would not be met during the peak period.[12] The North Bay corridor would have excess demand in the peak period. Excess auto demand would result in either a spreading of the demand into the hours adjacent to the peak period or in increased transit and ridesharing use should additional transit service (beyond that assumed to occur by the year 2000) or ridesharing incentives be provided.

Operating conditions at the regional screenlines would be at or near capacity in Level of Service E. Traffic flow conditions would be expected to be very unstable and could experience temporary flow interruptions throughout the peak period. Peak-of-the-peak conditions would be prevalent during the peak hour and might extend into the peak period. The overall two-hour commute period would not be expected to increase substantially in the future. Rather, the occurrence of peak-of-the-peak conditions, now less than one hour, would most likely expand to fill the one-hour peak.

As shown in Table 9, the list-based cumulative analysis, while not comparable with the year 2000 data, produces similar estimates of future demand. The results reflect the tendency of the list-based method to overestimate regional auto travel. The project would represent about 0.3% of the regional auto demand in this condition. The Bay Bridge and I-280 would have excess demand during the peak hour: the Bay Bridge, the Golden

TABLE 9

OUTBOUND REGIONAL AUTO DEMAND

Regional Auto Corridor		1984	DOWNTOWN PLAN (2000)		1984 + CUMULATIVE LIST	
	Capacity[1]	Demand[2]	Demand	Project Percent	Demand	Project Percent
P.M. Peak Hour						
Bay Bridge (I-80)	9,000	8,540	9,790	0.4	9,480	0.5
Golden Gate Bridge (US-101)	7,200	6,740	7,150	0.4	7,100	0.4
U.S. 101 (south of Harney Way)	8,000	7,390	8,400	0.3	7,800	0.3
I-280 (between Alemany Blvd. and San Jose Avenue)	8,000	7,610	8,650	0.3	8,020	0.3
P.M. Peak Period						
Bay Bridge (I-80)	18,000	17,880	19,330	0.3	18,460	0.3
Golden Gate Bridge (U.S. 101)	14,400	13,870	14,850	0.3	15,380	0.3
U.S. 101 (south of Harney Way)	16,000	14,200	16,530	0.3	14,870	0.2
I-280 (between Alemany Blvd. and San Jose Avenue)	16,000	13,620	15,890	0.2	17,290	0.2

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[1] Although the capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour demand shown above represents the effective capacity.

[2] The volumes for 1984 for the one-hour and two-hour periods are averages of several days and, thus, volumes for individual days may be different than the average.

Source: Environmental Science Associates, Inc.; Environmental Impact Planning Corp.

Gate Bridge, and I-280 would have excess demand during the peak period. The same conclusions noted above regarding future operating conditions would apply to this condition as well.

Intersection Analysis

Peak-hour traffic volume data has been obtained for the intersections of Sansome/Clay, Sansome/Sacramento, Battery/Clay and Battery/Sacramento, the intersections nearest the project. Capacity calculations indicate that these intersections operate as outlined in Table 10, page 143. Clay Street also serves as a "feeder" street for freeway traffic.

The intersections near the project site generally operate at stable traffic flows of service level A (see Appendix B, Table B-2, Page A-32, for service level definitions). It is recognized that certain intersection turning movements are delayed by pedestrian flows. Thus, right and left turning vehicles at these intersections can experience delays typical of service level D.

TABLE 10

PROJECTED PEAK-HOUR INTERSECTION

VOLUME-TO-CAPACITY RATIOS (V/C) AND SERVICE LEVELS

Intersection	Existing		Year 1990		Year 2000	
	LOS[1]	V/C[2]	LOS	V/C	LOS	V/C
Sansome/Clay	A	0.38	A	0.41	A	0.43
Sansome/Sacramento	A	0.29	A	0.32	A	0.33
Battery/Clay	A	0.45	A	0.49	A	0.50
Battery/Sacramento	A	0.31	A	0.34	A	0.35

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[1] Level of Service descriptions and relationshps to V/C ratios are shown in Appendix B, Table B-2 of this report.)

[2] Ratio of intersection traffic volume to capacity

Source: EIP Traffic Count conducted June 1984.

The localized aspects of cumulative development on streets and intersections immediately adjacent to the project site were prepared using underlying traffic growth factors representing "worst case" scenarios. It is estimated that in the City's northeast quadrant, traffic volumes will grow 8% by the year 1990 and 11% by the year 2000.[13] When these traffic growth factors are applied to current traffic volumes, level of service estimates at area intersections can be made for the years 1990 and 2000. Based on these calculations, the intersections in the immediate project vicinity would continue to operate at Level of Service A. Pedestrian activity could continue to hinder turning movements, producing delays for turning vehicles typical of service level D, as noted above.

The Downtown Plan EIR notes that the Clay/Battery intersection, (the closest project area intersection analyzed in the EIR) currently operates at service level D or better, and estimates Level of Service D or better for both 1990 and 2000.

Local intersection levels of service could be affected by the removal of the I-480 Embarcadero Freeway. The I-280 Transfer Concept Program Draft EIR (published October 1984) indicates that by the year 2000, traffic growth would increase p.m. peak period street congestion (street queuing and intersection service deficiency) at locations where congestion presently occurs. This includes the following intersections: Montgomery/Market, First/Mission, Beale/Mission, First/Harrison, Sterling/Bryant, Sixth/Brannan. Queuing on the elevated portion of the Embarcadero Freeway could back traffic into the Clay/Battery intersection, creating conditions worse than the Level of Service A estimated above. Alternative I (No Project Alternative) of the I-280 study indicates the Clay/Battery intersection would be Level of Service D if minimal or no change is made in the existing transportation system (Freeway retained). If The Embarcadero Freeway is removed, cars would not be queuing on Clay and Battery Streets to reach the freeway ramps and Level of Service at Clay/Battery would remain high. Removal of The Embarcadero Freeway would improve traffic conditions at the Clay/Battery intersection.

Various alternatives which involve removing the Freeway could cause more queuing and congestion on streets in the project vicinity, particularly south of the project on Battery, Montgomery, California, and Bush Streets. Traffic Impacts of various alternatives are discussed in the I 280 Transfer Concept Program EIR, section V.). The I-280 program is still in the preliminary stage. Certification of the Draft EIR is expected early in 1985.

The results of the I-280 Transfer Concept Program EIR and the Downtown Plan forecasts cannot be directly compared. For example, as noted elsewhere in the transportation section discussion, the Downtown Plan assumes that planned transit service improvements would be implemented by the year 2000, while the I-280 Transfer Concept Program assumes no change, or minimal change, in the existing transportation system.

PARKING

The project's parking demand has been calculated on the basis of trip generation and modal split data. Based upon the project's travel patterns, parking demand would be about 513 spaces, calculated as follows:

- 5,002 daily work trips x 22% auto/1.6 persons per auto[3]/2 one-way trips per auto = 344 long-term parking spaces.

- 18,995 daily non-work trips x 10% auto[2]/1.3 persons per auto[2,14]/2 one-way trips per auto/5.5 turnovers daily[12] = 133 short term parking spaces.

- 330 hotel rooms x 0.13 guest parking demand per room = 43 hotel guest spaces.

Total project demand = 520

The project would provide 42 valet parking spaces and create a net decrease of 42 parking spaces (includes 75 valet parking spaces on parcel 1 and nine metered parking spaces lost on Commercial Street), leaving an excess demand for 562 long-term and short-term spaces. With the added parking demand in an area of saturated parking, motorists would seek parking further from the project site or would shift travel patterns to transit or ride sharing. Further parking demand would be generated by cumulative downtown development. This cumulative demand would generally saturate available parking throughout the downtown area. (See discussion below.)

The project site lies within the "Downtown Core," designated in the City's Comprehensive Plan as an area "where priority must be given to the efficient and pleasant movement of business clients, shoppers and visitors; where a continuing effort should be made to improve pedestrian, transit and service vehicle access and circulation; where priority for the use of limited street and parking space within this core should be available for these functions; and where a continuing effort should be made to reduce the impact of the private commuter vehicle."[15]

Field surveys indicate that existing off-street parking spaces are essentially 100% occupied in the project area.[16] Because a vacancy rate of 5% would be expected as a result of parking space turnover, the existing parking is saturated.

The estimated parking demand (both long-term and short-term) from the C-3 District in 1984 was found to be about 45,300 spaces, which would occupy about 94% of the 48,000 parking spaces in and near the C-3 District.[17] The short-term parking demand, while representing about 25% of the equivalent daily demand, is about 65% of the daily vehicle travel. Although the equivalent daily demand would leave about 10% of the parking supply vacant, surges in short-term demand (more travel in one period than in another period) can cause temporary localized overloads of parking facilities within various portions of the downtown, even though parking may be available elsewhere in the downtown.

The C-3 District would generate demand for approximately 58,000 equivalent daily parking spaces in the year 2000 under the Downtown Plan, an increase of 28% from 1984. Short-term demand would continue to represent about 25% of the total demand. The project parking demand would represent about 1.0% of the total demand from the C-3 District. The parking supply has been assumed to be about 51,000 spaces. There would be a parking deficit of about 7,000 spaces in the year 2000 if vehicular demand occurs as projected. However, as shown in Table 8, the analysis for the year 2000 forecasts excess auto demand in the peak hour and the peak period. If the excess demand is accommodated on transit or ridesharing, then the overall parking demand would decrease from the above estimate by about 2,300 spaces. If the Goals of the Downtown Plan are met, total parking demand in the year 2000 would be about 48,100 equivalent daily spaces, an increase of six percent over 1984. If the Goals were achieved, there would not be a parking deficit.

The list-based analysis shows future demand for 11,400 spaces from projects in the C-3 District, which when added to the 1984 data, would generate a total demand of 56,700 spaces. While similar to the 58,000-space (unmitigated) demand from the Downtown Plan, the list-based demand is not comparable for the reasons stated above, in particular because the list-based analysis assumes a static modal split and thus overestimates future auto demand.

Although the parking demands discussed above are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. Although not shown in Table 7, parking demand from the C-3 District under Alternative 1 would be about 4% higher than under the Downtown Plan, while that under Alternative 4 would be about 1% lower than that under the Plan.

The project's freight loading needs have been calculated according to City guidelines.[18] The project's freight loading requirement would be:

- 611,000 gsf office space @ 0.1 space/10,000 sq. ft. = 6.11 spaces
- 254,000 gsf hotel space = 2.00 spaces
- 59,500 gsf retail and restaurant space = 2.38 spaces

Total = 10.49 spaces

The project would include ten off-street freight loading spaces, in accordance with size and other requirements of Planning Commission Resolution 9286, and the requirements of the Downtown Plan.

Vehicle and loading access to the proposed project would be from Clay Street, a transit preferential street. "Policy Guidelines for Transportation Access to Hotels" (Department of City Planning) indicates that primary access to hotels should not be from transit preferential streets. In the case of Embarcadero Center West, all streets surrounding the hotel are transit preferential streets and access from a non-transit street is unavailable.

Ten freight loading spaces would be located in the project's service level (first basement level) and accessible via a vehicle ramp from Clay Street. Trucks would be able to turn within the structure and enter and exit the building with forward motion. The hotel's main entrance would be a "U" shaped pull through driveway on Clay Street. This would provide an off-street curb space for loading and unloading private autos and taxi cabs as well as an area for a taxi queuing. The project is required to provide one tour bus loading space (Planning Code, Section 162). This would be located in the main entrance drive. The presence of a bus in the entrance drive would reduce the space available for other vehicles. Limiting the duration of bus stops in the entrance drive to the minimum amount of time necessary to actually load and unload passengers would reduce possible conflicts. Valet parking would be provided for 42 cars on lower parking levels. Entrance to the valet parking would be via the auto ramp from Clay Street.

Existing freight loading to Parcel 1 (450 Sansome Street, not part of the project) is in a service entry located on Commercial Street. The sponsor proposes that if Commercial Street were converted to a full-time pedestrian street, loading for 450 Sansome be accomplished through the project's proposed hotel loading ramp from Clay Street (see Project Description). Trucks for 450 Sansome would enter the Clay Street ramp and once on the service level, turn into the existing 450 Sansome parking area. Parcels 2 and 3 would also have loading access via the service level (first basement level). Existing frieght loading on surrounding streets would not be affected.

Closure of Commercial Street would cause some change in traffic circulation. Commercial Street is not a through Street. It is closed at Battery Street and is used for parking and service access. Service access would be relocated to Clay Street on the north side of the site. Nine metered parking spaces would be eliminated. (Loss of these spaces is included in the net decrease of spaces discussed in this section. See page 145.)

CONSTRUCTION ACTIVITY

Based upon the project's construction costs and two-year construction schedule, it is estimated that an average of approximately 600-650 construction workers would be employed on-site over the period of time (see Section IV.I., Employment, Housing and

Fiscal Factors, page 174). If all of the construction employees were to drive with limited ridesharing and similar work shifts, about 600-650 auto trips would be generated during the employees' evening commute period. Because construction employees tend to work earlier shifts, it is likely that only a portion of this travel would occur during the 4:30-5:30 p.m. peak hour. The construction employee trips would not degrade traffic service levels on the adjacent street network. Employees would seek parking in the project area, competing with other employees and visitors for the limited parking currently available. Construction activity could also encroach onto sidewalk areas, disrupting pedestrian flows. Two Muni bus stops would be affected by construction; the stop on Battery Street north of Sacramento, and the stop on Sacramento west of Battery. Both of these stops would be affected by construction of the portico/addition to the Federal Reseve Bank and the pedestrian bridge over Sacramento Street. The Battery Street bus stop would be maintained at its present location, although construction activity may cause the sidewalk width to be reduced. The Sacramento Street bus stop would be temporarily moved to the northwest corner of Sacramento at Battery to remove it from the pedestrian bridge construction area. Muni overhead wires on Sacramento Street would be maintained for uninterrupted trolley service during construction, and any bridge would be constructed to allow trolley clearance and accommodate trolley wires. The Muni and Golden Gate Transit bus stops in front of the Federal Reserve Bank on Sansome would not be affected.

Construction would probably also entail the removal of the parking lanes adjacent to new construction on Battery Street and Sacramento Street adjacent to Parcels 1 and 3. This would mean the temporary removal of about 15 metered Commercial (yellow zone) parking spaces.

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[1] San Francisco Department of City Planning, Guidelines for Environmental Review: Transportation Impacts, November 1984.

[2] Caltrans, Tenth Progress Report on Trip Ends Generation, July 1975.

[3] San Francisco Department of City Planning, Office of Environmental Review, Final Environmental Impact Report for The Downtown Plan, EE81.3, certified October 18, 1984. This document is an analysis of projected growth in the C-3 District to the year 2000 under the Downtown Plan and five alternatives. The transportation analysis in the EIR includes projections of future modal splits for work and non-work travel for the p.m. peak period, peak hour and daily time periods. This document is on file and available for public review at the Office of Environmental Review, 450 McAllister Street, Fifth Floor.

[4] San Francisco Department of City Planning, Office of Environmental Review, Environmental Impact Report for The Downtown Plan, EE81.3, certified October 18, 1984. This document is an analysis of projected growth in the C-3 District to the year 2000 under the Downtown Plan and five alternatives. The transportation analysis in the Downtown Plan EIR includes projections of future modal splits for work and other (non-work) travel for the p.m. peak period, p.m. peak hour, and daily time periods. That document is on file with and available for public review at the Department of City Planning, 450 McAllister Street, Fifth Floor.

[5] The Downtown Plan EIR contains about 50 pages of text devoted to the description of transportation impacts in the greater downtown area, as well as an additional 30 pages of text describing transportation mitigation measures. The information in this Draft EIR is not intended to be a comprehensive summary of the transportation analysis in the Downtown Plan EIR, but summarizes portions relevant to the proposed project and its contribution to cumulative impacts. For details and assumptions used to arrive at the data and results presented in the Downtown Plan EIR, see Sections IV.E, Transportation Setting and Impact, and V.E, Transportation Mitigation, of the Downtown Plan EIR, which are incorporated by reference into this report and summarized in the text as appropriate.

[6] Metropolitan Transportation Commission, Traffic Survey Series A-48 and MA-60, Spring 1977 and Spring 1983.

[7] The analysis of historic trends in travel patterns is from the following sources: Metropolitan Transportation Commission, Travel Observations of the Bay Bridge Corridor, October 21, 1981; Homburger and Dock, Trends in Traffic Patterns at the Bay Bridge and Caldecott Tunnel, U.S. Department of Transportation, DOT-BIP-WP-32-3-77, July 1977; telephone survey of 500 drivers conducted in April 1980 by Golden Gate

Transit, data supplied by Alan Zahradnik, Transportation Planner, on February 16, 1983; Office of the Auditor-Comptroller, Comparative Record of Traffic for the Month of November, May 27, 1937 through November 30, 1982, Golden Gate Bridge, Highway and Transportation District; San Francisco Municipal Railway Planning Division, Projections of Future Muni Demand and Vehicle Requirements, October 1982; San Mateo County Transit District, SamTrans Five-Year Transportation Development Plan: 1983-1988, April 1983; California Department of Transportation, CalTrain Caltrans/Southern Pacific Peninsula Train Service Five-Year Plan 1983-1988, July 1983; and traffic volume counts from Department of Public Works, Bureau of Engineering, Division of Traffic Engineering and from 1983 San Francisco Cordon Count, JHK and Associates, July 1983.

[8] See Downtown Plan EIR, pages II.9-II.11 for a comparison of the cumulative list projections with those of the Downtown Plan EIR.

[9] San Francisco Municipal Railway, Short-Range Transit Plan 1983-1988, July 1983. Bay Area Rapid Transit District, Short Range Transit Plan for the Five-Year Period July 1983 Through June 1988, August 1983.

[10] San Francisco Department of City Planning, The Downtown Plan, Proposal for Citizen Review, August 1983, page 138, revised November, 1983, amended June, October, and November, 1984.

[11] Wilbur Smith and Associates, San Francisco Center City Pedestrian Circulation and Goods Movement Study, September 1980, page 30.

[12] Table IV.E.4, p. IV.E.36, of the Downtown Plan EIR contains a discussion of the implications of excess demand at the regional screenlines.

[13] San Francisco Department of City Planning, Guidelines for Environmental Review: Transportation Impacts, November 1984.

[14] San Francisco Department of Public Works, 1983: Downtown Cordon Count, 1983.

[15] San Francisco Department of City Planning, Transportation Element, Adopted April, 1983, Policy 8, p. 41.

[16] Federal Reserve Bank of San Francisco, Environmental Assessment on Property Disposition, February 25, 1983.

[17] The parking survey data and other supporting calculations and data used in the Downtown Plan EIR transportation impact analysis are on file and available for public review at the Office of Environmental Review, Department of City Planning, 450 McAllister Street, Fifth Floor.

[18] San Francisco Department of City Planning, Amendments to the Planning Code to Implement the Downtown Plan (Interim Controls), November 29, 1984, Section 152.5.

F. AIR QUALITY

Upon completion, the project would affect air quality in two ways: emissions would be generated by project-related traffic and by combustion of natural gas for space and water heating. Transportation sources would account for over 95% of project-related emissions.

Construction activities would generate pollutants in the project vicinity. Trucks and equipment would release exhaust that would affect neighboring buildings during construction hours. Site preparation and construction activities would generate suspended particulate matter. Although emission factors upon which to base estimates of the resulting atmospheric concentrations of particulates are not available, violations of the state 24-hour total suspended particulate (TSP) standard may result in the immediate vicinity of the project.

Projected daily emissions of pollutants in 1990 from project-generated traffic, and from cumulative development traffic, based on the March 10, 1984 list of cumulative office development in downtown San Francisco (Appendix E, Table E-1, pages A-49 to A-53) are shown in Table 11 page 154. Table 11 compares the cumulative list-based emissions projections to emissions projected for C-3 District development by the Downtown Plan EIR (EE81.3, certified October 18, 1984) , and to total emissions projected for the entire Bay Area by the 1982 Bay Area Air Quality Plan. The project would contribute about 2% of the total air pollutant emissions generated by cumulative list projects, and about 4% of the total emissions generated by Downtown Plan development in 1990. Alternative 1 to the Downtown Plan (covered in the Downtown Plan EIR) would generate about 38% more emissions in 2000 (from development between 1990 and 2000) than would the Downtown Plan. Alternative 4 would generate about 7% less emissions than would the Downtown Plan. Emissions generated by Alternatives 2, 3 and 5 would fall within this range. The types of air quality impacts under these alternatives would be the same as those under the Downtown Plan; their magnitudes would vary in proportion to their differences in emissions.

TABLE 11

PROJECTED DAILY POLLUTANT EMISSIONS

(tons/day)[1]

Pollutant	Project 1990[2]	Cumulative List 1990[3]	Downtown Plan[4]		Bay Area[5]	
			1990	2000	1990	2000
Hydrocarbons	0.11	1.4	0.6	0.6	428	428
Nitrogen Oxides	0.14	1.8	0.8	0.8	558	610
Carbon Monoxide	1.3	17.0	6.8	6.8	1,952	1,883
Particulates	0.2	2.7	1.1	1.3	562	649
Sulfur Oxides	0.018	0.2	0.1	0.1	194	233

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[1] Project, Cumulative List, and Downtown Plan emissions calculated using BAAQMD, EMFAC6C vehicular emission factors. Emission of HC, NOx, and CO include an assumed six minutes of idling time per vehicle trip. Emissions of TSP include dust disturbed from roadway surfaces.

[2] Based upon daily average of 77,000 miles traveled.

[3] Incremental emissions of downtown-area development based on list of projected Cumulative Office Development in Downtown San Francisco as of March 10, 1994 (see Appendix C, Table C-2, pp. A-36).

[4] Incremental emissions of C-3 District development, per The Downtown Plan EIR, Table IV.1.2,p.IV.1.12.

[5] Cumulative total emissions of Bay Area development, per ABAG, BAAQMD, MTC, 1982 Bay Area Air Quality Plan, pp. 42, 53, and 112.

Motor vehicle trips associated with downtown development would emit more nitrogen oxides (NOx) than hydrocarbons (HC), both of which are chemical precursors of ozone, while emissions from the building's natural gas combustion would consist primarily of NOx. On the basis of the Livermore Regional Air Quality Model (LIRAQ) ozone simulations conducted for the 1982 Bay Area Air Quality Plan, incremental NOx emissions, in excess of incremental HC emissions, could lead to a slight decrease in peak ozone concentrations in the Bay Area. This relationship between NOx and HC emissions would hold both under the cumulative list scenario and the Downtown Plan scenario shown in Table 11. Thus, emissions of HC and NOx generated by the project and by cumulative development would not increase the Bay Area ozone concentrations. If the HC emission reduction strategies adopted in the 1982 Bay Area Air Quality Plan are successful, these concentrations are expected to meet the federal standards by 1987.

NOx emissions would decrease in San Francisco by about 2% from 1984 to 2000 but would increase in the Bay Area by about 5% from 1984-2000. It is possible, that the Bay Area cumulative NOx emissions could increase ozone and/or nitrogenous oxidant concentrations further downwind, outside the Bay Area. In addition, incremental NOx emissions generated by cumulative development throughout the Bay Area (including the project) could increase acid rain further downwind, outside the Bay Area to a relatively small extent, due to the magnitude of the increase and to dilution over time and distance.

In 1990 and 2000 according to the Downtown Plan EIR area-wide traffic volumes in the downtown area would increase by about 8%, and 15%, respectively. Average traffic speeds would decrease by about one mph and 2 mph, respectively from 1984 speeds. However, in 1990 and 2000, the average vehicle is expected to emit 32% and 43%, respectively less CO than in 1984 due to ongoing state and federal emissions controls. CO concentrations at the 11 intersections in the downtown study area as analyzed in the Downtown Plan EIR would decrease from 1984 to 1990 and thereafter to 2000. CO concentrations at 10 of the 11 intersections would be within the state and federal standards in 1990 and 2000 under the Downtown Plan and the Alternatives. CO concentrations at one intersection would continue to exceed the state and federal eight-hour standards both in 1990 and 2000 under the Downtown Plan and the Alternatives.

Curbside CO concentrations at the four intersections most affected by project-generated traffic, and by cumulative development traffic (based both on the Downtown Plan EIR growth projections and on the March 10, 1984 cumulative list), were projected for worst-case conditions and are compared with the ambient standards in Table 12, (see page 157). These projections were calculated using a revised version of the Modified Linear Rollback (MLR) method which was developed for the Downtown Plan EIR.

The results indicate that both the state and federal eight-hour average CO standards are violated under current conditions at Battery/Clay. No other violations of state and federal standards are predicted to occur under existing or future conditions at these locations. Since CO concentrations drop off rapidly with distance from curbside, occupants of nearby buildings would be exposed to lower concentrations of CO than reported in Table 12. Pedestrians in the project vicinity would be exposed to higher concentrations than would occur without the project, but the increase would be comparable to the range of error in conventional monitoring or modeling. No other sensitive receptors were identified that would be adversely affected by the proposed project.

Emissions of TSP generated by the project and by cumulative development would increase TSP concentrations, which could increase the frequency of TSP standard violations in San Francisco, with concomitant health effects and reduced visibility.

Emissions of sulfur oxides (SOx) generated by the project and by cumulative development would probably not bring San Francisco's sulfur dioxide (SO_2) concentrations measurably closer to violating the standard.

The 1982 Bay Area Air Quality Plan contains these strategies, which consist primarily of HC and CO emission controls on stationary sources and motor vehicles, and transportation improvements, and are aimed at attaining the federal ozone and CO standards. As discussed above, emissions associated with the project and with cumulative downtown development are not projected by this EIR or by the Downtown Plan EIR to increase ozone concentrations and thus would not indirectly conflict with the objectives

TABLE 12

EXISTING AND PROJECTED CURBSIDE CARBON MONOXIDE CONCENTRATIONS[1] AT SELECTED INTERSECTIONS

(parts per million)

	Averaging		Cumulative	Downtown Plan[3]	
	Time	1984	List 1990[2]	1990	2000
Clay/Sansome	1 hour	10.8	8.3	8.4	7.9
	8 hour	8.5	6.4	6.5	6.0
Battery/Clay	1 hour	13.0	9.9	9.9	9.2
	8 hour	10.5	8.0	8.1	7.4
Sacramento/Sansome	1 hour	9.7	7.6	7.6	7.2
	8 hour	7.6	5.8	5.9	5.4
Battery/Sacramento	1 hour	10.0	7.9	7.9	7.4
	8 hour	7.8	6.1	6.1	5.6

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[1] Calculations were made using the Modified Linear Rollback Air Quality Model described in the Downtown Plan EIR. Underlined values are in excess of the state or federal CO standards. The one hour state standard is 20 ppm, the one hour federal standard is 35 ppm, and the eight hour state and federal standards are 9 ppm. Details are on file at the Department of City Planning, 450 McAllister Street, Fifth Floor, San Francisco.

[2] Based on the list of projected Cumulative Office Development in Downtown San Francisco as of March 10, 1984, Table E-1, page A-49.

[3] Based on growth projection methodology contained in Downtown Plan EIR, Table IV.I.3., Comments and Responses, page I.8.

Source: EIP Corporation

regarding ozone of the 1982 Bay Area Air Quality Plan. However, cumulative downtown development is projected by the Downtown Plan EIR potentially to result in a violation of the 8 hour average CO standard at the Brannan and Sixth Street intersection, analyzed therein. The model used to make the CO projections might not be accurate to within the percentages of the excesses. Therefore, until additional CO 'hotspot' monitoring is performed to validate the model projections, a determination of whether downtown development would conflict with objectives of the 1982 Bay Area Air Quality Plan regarding CO cannot be made.

The pollutant emissions and CO concentrations shown in Tables 11 and 12 were projected for 1990 on the basis of two different sets of future growth assumptions, with differing results. In one case, a list of specific projects proposed, approved and under construction was used (the list of Cumulative Office Development in Downtown San Francisco, March 10, 1984). In the other case, the employment growth trend approach of the Downtown Plan EIR was used, and those projections presented. In both cases, the method for the air quality analyses was identical. However, the results using projected cumulative development are not directly comparable with those from the Downtown Plan EIR for several reasons.

First, it is reasonable to assume that the projected cumulative development on the list would be completed and occupied sometime between 1990 and 2000, rather than in either of those two analysis years used in the Downtown Plan EIR. The pollutant emissions and CO concentrations were calculated for 1990 using the cumulative list, even though those projects are not expected to be completed until the mid-1990s, in order to provide a comparison with the Downtown Plan EIR results. However, this has the effect of artificially increasing the cumulative list results, because average-vehicle emission rates will decline with time, as a result of federal and state controls.

Second, the transportation analysis used for the Downtown Plan EIR differs from that used for the cumulative list, as described in Section IV.E, Transportation Impacts (pages 120 to 129). Briefly, these differences include the fact that a cumulative list-based analysis assumes that the same proportion of new employees would commute by private auto as is currently the case. In contrast, the Downtown Plan EIR analysis projects that commuters will shift from driving alone to using carpools and transit, because commute routes such as the Bay Bridge are already at or near capacity and could not accommodate all of the vehicles that would be used if the proportion of persons driving alone to work remained constant.

Other reasons for the differences include the use in the cumulative list analysis of a constant regional distribution of trips, whereas the Downtown Plan EIR forecasts a declining percentage of new employees residing in San Francisco, and the lack in the cumulative list approach of discounting factors to account for trips between individual projects within the Downtown. Also, the cumulative list applies to the entire Downtown area, a larger geographical area than the Downtown Plan EIR, which applies to the C-3 District only.

Thus, total (regional) vehicle miles traveled and the resulting pollutant emissions projected using the cumulative list approach are considered artificially high. On a local intersection basis, traffic volumes and the resulting CO concentrations might or might not be higher with the cumulative list approach, depending on the particular location. This is because the cumulative list method does not distribute traffic on all the same streets in the same proportions as does the Downtown Plan EIR method. For the two intersections analyzed here, the projected traffic volumes and CO concentrations are higher with the cumulative list approach.

G. CONSTRUCTION NOISE

Noise measurements were made on the afternoon of Thursday, June 3, 1983, at six locations in the site vicinity.[1] The major noise sources are trucks and buses. Existing noise levels are highest on Sansome Street (L_{eq} of 71),[2] lowest on Commercial Street (L_{eq} of 64) and similar on Clay, Sacramento, Battery and Halleck Streets (L_{eq} of 67-68). Sansome Street is heavily traveled by both auto and bus traffic during the afternoon, which accounts for its higher noise level. Noise levels are likely to be higher on Battery Street during the morning commute hours. Maximum levels at the typical building setback on these streets generally reach 80 dBA, with occasional peaks to 85 and even 90 dBA. Based on 24-hour measurements made on Battery Street and elsewhere in the Financial District, the day/night average noise level (L_{dn}) on the project site ranges from about 66 dBA for the portion of the site facing Commercial Street to a maximum of 73 dBA for the buildings fronting Battery and Sansome Streets.

Construction of the proposed project would take place over approximately 24 months in three phases: demolition, foundation excavation and construction, and building erection. Construction noise levels would fluctuate depending upon: phase of construction; type of equipment used during each phase; noise emitted during use of noisy equipment; duration of equipment use; distance between noise source and receptor; and the noise propagation characteristics of the path between the noise source and the receptor (for example, shielding by barriers or intervening buildings that results in a reduced noise level at the receptor). Due to the preliminary nature of the project plans, it is not now known what specific techniques or equipment would be used during construction phases. In order to estimate possible construction noise impacts, this EIR assumes typical equipment and construction techniques, (see Table D-1, page A-45, for typical noise level information).

Demolition of the building on Parcel 3 would probably require jackhammers, which typically emit levels of 88 dBA at a distance of 50 feet. Rubble would be loaded into trucks with front-end loaders and hauled away. Front-end loaders and trucks emit levels of 85 dBA at a distance of 50 feet.

Foundation excavation would require pavement breakers on the existing parking lot on Parcel 1 and bulldozers, graders, haul trucks and front-end loaders for the excavated material. Pavement breakers emit noise levels of about 90 dBA measured at a distance of 50 feet. It is anticipated that pavement breakers would be used for less than a week on the existing asphalt pavement.

During foundation construction, the major noise sources would be concrete-pumping trucks and, if necessary, pile drivers on Parcels 1 and 3. At the time this report was prepared it was not known whether the foundation for the structure on Parcel 1 would be supported by piles or mat; however, for purposes of this report the worst-case is assumed and thus the analysis addresses the use of pile drivers. Concrete-pumping trucks generate noise levels of up to about 85 dBA at 50 feet; pile drivers generate up to about 105 dBA at 50 feet.

During building erection, the major noise sources would be concrete pumpers, power saws, cranes, air compressors, generators and impact torque wrenches. The noisiest single activity during building construction would be the sporadic use of impact wrenches to fasten shear connectors and metal decking to the steel frame. Impact wrenches emit about 95 dBA at a distance of 50 feet and are typically used for a few months during the building erection phase.

Construction noise in the City and County of San Francisco is controlled by Ordinance 274-72, Regulation of Noise, Section 2907. The ordinance requires that all powered construction equipment except impact tools and equipment emit not more than 80 dBA measured at 100 feet (86 dBA at 50 feet). Impact tools and equipment including pavement breakers, jackhammers, and pile drivers must have both intake and exhaust muffled to the satisfaction of the Director of Public Works. It should be noted that the ordinance does not require mufflers on impact tools used in San Francisco. The ordinance does prohibit construction work from 8 p.m. to 7 a.m. if noise from such work exceeds the ambient noise levels by 5 dBA at the property line, unless a special permit is authorized by the Department of Public Works.

The noise levels generated by the proposed project would have the greatest effect upon the buildings nearest the site and would diminish by about 6 dBA with every doubling of distance. Construction noise levels would be greatest during the foundation construction phase on Parcels 1 and 3 and during the building erection phase on Parcels 1 and 3. During the foundation excavation and demolition phases of the project, noise levels would be about 10 dBA lower. An office building with operable windows is directly south of the site, across Halleck Street. Adjacent to the site on the west is 350 Sansome Street, also with operable windows. The Golden Gateway Center, two blocks northeast of the project site, also has operable windows.

Should pile driving be required during the foundation construction phase on Parcel 1, all surrounding outdoor spaces within 50 feet would experience a noise level of about 105 dBA. The interior noise level would be 75 dBA or lower in the offices at the east end of the office building contiguous to Parcel 1. The core structure of this building would shield its offices from the construction noises on Parcel 1. One possible effect of the construction activity, especially pile driving, would be disruption of the elevator operations in the building's core structure due to vibrations and shifting of the building's foundation. One possible mitigation measure would be the requirement of a vibration monitoring survey as a part of the dewatering study to monitor potential foundation shifting (see Chapter V,G., Mitigations, page 190).

The interior noise level in the nearest offices across Clay Street would range from 88 dBA with open windows to 83 dBA with closed windows during pile driving. The interior noise level in the retail businesses in Embarcadero One nearest Battery Street would be about 73 dBA. The noise levels at the Golden Gateway Center apartments would be determined by the location of pile driving on Parcel 1. Location of the pile driver at the east end of the parcel would allow a direct line-of-sight with the east tower of the Golden Gateway Center, producing an interior noise level of 76 dBA with open windows and 71 dBA with closed windows in the nearest apartments along Battery Street. Location of the pile driver at the east end of Parcel 1 would result in slightly lower interior noise levels at the Golden Gateway Center due to blocking of the line-of-sight by the buildings across Clay Street. As the pile is driven further into the ground, the point of impact would become further and further away from the affected residential apartments. Accordingly, apartments at higher floors in of the residential highrises would be farther from the point of impact.

The interior noise levels at the Golden Gateway Center during pile driving on Parcel 1 would disturb residents' conversations and phone use. During all phases of the construction process, the expected interior noise levels at Golden Gateway Center would make daytime sleeping difficult.

During building erection on Parcels 1 and 3, the major noise impacts would occur during the use of the impact wrenches. The peak interior noise level during the use of the impact wrenches on Parcel 1 would be about 10 dBA lower (or about 60 dBA) on the surrounding buildings than during the pile driving phase. The use of impact wrenches on Parcel 3 would create an interior noise level of about 63 dBA in those buildings across Battery Street. The two buildings across Halleck Street (south of the site) would have a peak interior noise level of about 80 dBA with windows open and 75 dBA with windows closed.

With construction noise levels of 60 dBA during shoring/foundation and steel erection phases, no interference of office activities would be expected, although some office workers might be annoyed and occasionally distracted. Noise levels between 60 and 70 dBA would be annoying and distracting, and interfere with relaxed conversation, but would not interfere with telephone use. At levels between 70 and 80 dBA, workers would find it difficult to concentrate, relaxed conversation would be impossible, conversations on the phone would be difficult, and worker dissatisfaction could be expected. At noise levels above 80 dBA, it would be essentially impossible to carry on normal work routines.

In summary, during pile driving, noise levels in the interior of buildings surrounding the project would be high enough to disturb residents and workers.

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[1] The noise report for this project, Fundamental Concepts of Environmental Noise, was prepared by Charles M. Salter and Associates, and is on file at the Department of City Planning, 450 McAllister Street, Fifth Floor, San Francisco.

[2] Decibel	A logarithmic unit of sound energy intensity. Sound waves, traveling outward (dB) from a source, exert a force known as sound pressure level (commonly called "sound level"), measured in decibels.
dBA	Decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.
L_{dn}	An averaged sound level measurement, based on human reaction to cumulative noise exposure over a 24-hour period, which takes into account the greater annoyance of nighttime noises. Noise between 10 p.m. and 7 a.m. is weighted 10 dBA higher than daytime noise.
L_{eq}	The equivalent steady-state sound level that, in a stated period of time, would contain the same acoustic energy as the time-varying sound level during the same period.

H. ENERGY

Pacific Gas and Electric Company supplies energy to San Francisco customers. Electrical energy is generated from various sources of energy including oil, gas, hydroelectric, geothermal, nuclear, wind, cogeneration and solid waste.[1] In future years PG&E expects to generate electricity from these sources and from coal. The proportion of energy generated from oil and gas is expected to decrease by 1990 with corresponding increases in the proportion of energy generated from the other sources listed above.[2]

Energy is currently used on-site for a parking lot on Parcel 1 and the 435 Sacramento Building on Parcel 3.[3] The Federal Reserve Bank at 400 Sansome (Parcel 2) and the office/warehouse at 241 Battery (Parcel 3) are now vacant. For the 12-month period ending in 1983, the total amount of electricity consumed at the project site was 106,000 kilowatthours. The total amount of natural gas consumed was 89,000 therms. Together these are the energy equivalent of 1,800 barrels of oil.

The project would require about 300 billion BTU of energy for construction in the form of gasoline, diesel fuel, electricity and lubricants. This is the energy equivalent of 54,000 barrels of oil.

New buildings in San Francisco are required to conform to energy conservation standards specified by Title 24 of the California Admdinistrative Code. The State allows building developers to comply with the standards through the component performance standards method which requires the incorporation of a set of specific design features, through the use of nondepletable energy resources, or by demonstrating that the building would consume no more than a specified quantity of energy, expressed as BTU's per square foot-per year (energy budget).[4] Documentation showing compliance with these standards is submitted with the application for the building permit, and is enforced by the Bureau of Building Inspection.

At this stage in the project design, there is insufficient information upon which to base a building energy budget analysis for either Title 24 compliance or other engineering purposes. Therefore, estimates of the likely energy consumption of the proposed project have been made based upon comparisons with other recent projects in San Francisco[5] and assuming compliance with Title 24 by the energy budget method. The resulting estimates are shown in Table 13, page 167.

Daily and annual load distribution curves for the project cannot be estimated at this time because of the lack of detailed design information. As load curves are not governed by Title 24, no reasonable assumptions are readily available. It may be noted, however, that similar projects in San Francisco for which load curves have been developed show peak electrical consumption occurs on hot August or September afternoons (due to demand for cooling), which coincides with PG&E's systemwide peak.[6] Representative load curves for natural gas and electricity consumption in office buildings are shown in Figures 39 and 40, pages 169 and 170. The drop in electrical demand at the noon hour shown in Figure 39 is due to smaller demand for appliance operation and cooling as workers stop for lunch. Natural gas demand of other office projects has been predicted to peak during cold January mornings, which does not coincide with the systemwide peak, which occurs on cold January evenings. The actual load curves for the proposed project would be expected to be similar in shape but different in magnitude of demand from those in Figures 39 and 40. The energy consumption of the hotel would alter the shape of the daily curves toward greater consumption in early mornings and evenings. The time of year of the annual peaks would not be affected. The hotel's peak electrical consumption would coincide with the time of day of PG&E's systemwide peak, as would the hotel's natural gas consumption. Information upon which to base project-specific curves is unavailable at this time.

The project through its proposed use of integrated energy systems would respond to Objective 3, Policy 5 of the City of San Francisco Energy Element to the Comprehensive Plan. The project through its proposed mitigation measures to encourage the use of transportation alternatives to the automobile would also conform to Objective 4, Policy 1 of the Energy Element.

Based on the March 10, 1984 list of cumulative office development in downtown San Francisco (Appendix E, page A-48), yearly estimated electrical consumption for the projected 19 million square feet of additional office space in downtown San Francisco would be approximately 340 million kWh of power per year (see Appendix E, Table E-1,

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TABLE 13

ESTIMATED PROJECT ENERGY USE [1]

Allowable Under Title 24 Energy Budget	
Total annual BTU[2] per square foot of office space	126,000 BTU per square foot per year
Total annual BTU per square foot of retail space	200,000 BTU per square foot per year
Total annual BTU per square foot of hotel space[3]	141,000 BTU per square foot per year
Daily Natural Gas Consumption[4]	
Estimated daily natural gas consumption per square foot	220 BTU
Estimated peak daily natural gas consumption[5]	1,090 therms
Monthly Electric Consumption[6]	
Estimated monthly electric consumption per square foot	1.2 kilowatt hours
Estimated total monthly electric consumption	1.4 million kilowatt hours
Annual Consumption	
Estimated total annual natural gas consumption	252,000 therms
Estimated total annual electric consumption	14.2 million kilowatt hours
Connected kilowatt load	5,500 kilowatts
Estimated total annual energy consumption	141 billion BTU equivalent to 25,200 barrels of oil

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[1] The project would include 611,000 gsf of office space, 24,315 gsf of retail space, 35,185 gsf of restaurant space and 254,000 sq.ft. of hotel space. Energy use includes space conditioning, service water heating and lighting in accordance with allowable limits under Title 24. Estimated electricity consumed by typewriters, computers, coffee-makers, etc., is included in the projections, although not included in the Title 24 estimates. Transportation energy use appears in a separate table.

[2] BTU (British Thermal Unit): A standard unit for measuring heat. Technically, it is the quantity of heat required to raise the temperature of one pound of water 1° Fahrenheit (251.97 calories) at sea level.

[3] Hotel energy consumption is based on 9.47 kWh per square foot per year for electricity and 0.64 therms per square foot per year of natural gas. These figures are averages for the PG&E service area supplied by Dan Green of the California Energy Commission. They are equivalent to a total of 161,000 BTU per square foot per year.

[4] The assumed split between electricity and natural gas for office and retail (90% electricity, 10% natural gas) uses is based upon predicted consumption rates of other San Francisco projects. However, this "split" is sensitive to the design used; actual consumption rates may differ considerably.

The amount of gas that would be consumed is based on unpublished building energy consumption data supplied by David Rubin, Department of City Planning, oral communication, April 1984.

[5] As detailed engineering studies have not been performed for the proposed design, estimates of peak natural gas consumption are highly speculative. A review of load curves prepared for other projects indicates that peak demand may be about 50% greater than average demand. The estimate here is based on that assumption.

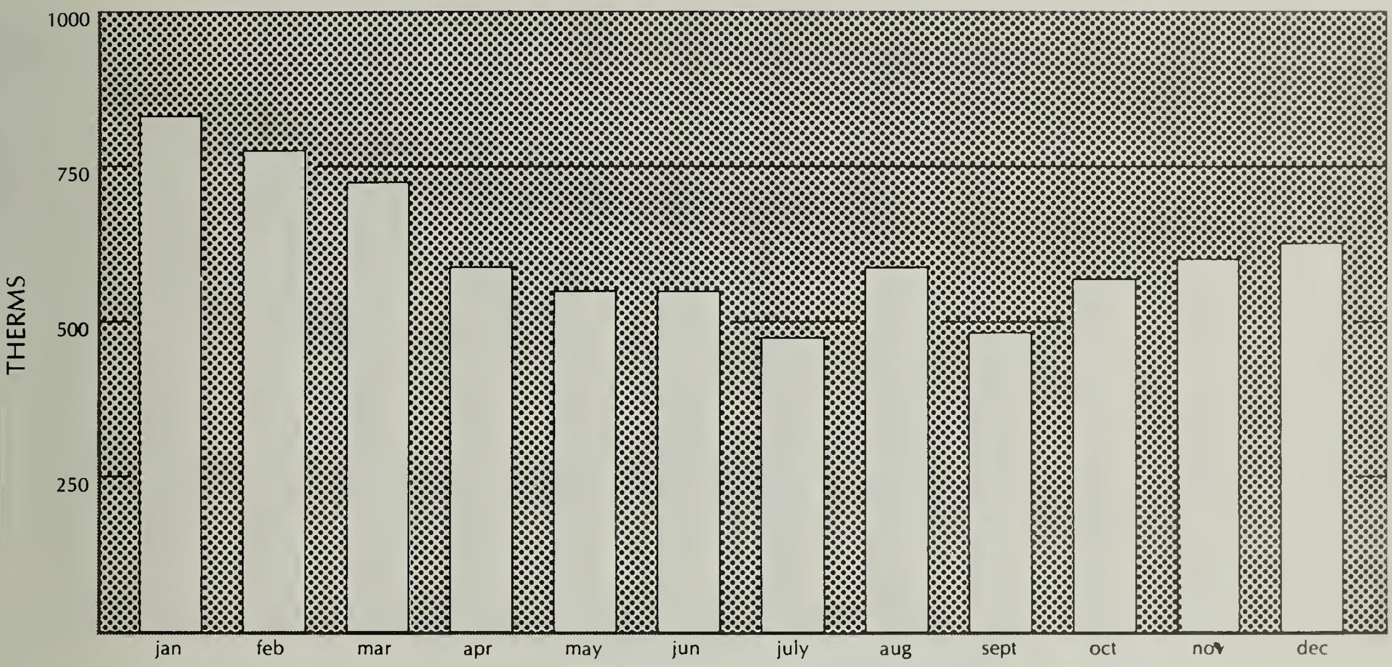
[6] The amount of electricity that would actually be used includes non-occupant loads covered by Title 24 as well as electric loads from computers, copiers and typewriters. The total estimated electricity consumption is based on unpublished building energy consumption data supplied by David Rubin, Department of City Planning, personal communication, April 1984.

Note: Energy Conversion Factors:
one gallon gasoline = 125,000 BTU
one kilowatt (kw) = 10,239 BTU assuming operational efficiency of 33% for fossil or nuclear fueled power plant
one therm = 100,000 BTU
one cu.ft. of natural gas = 1,100 BTU at source
one barrel of oil = 5,600,000 BTU

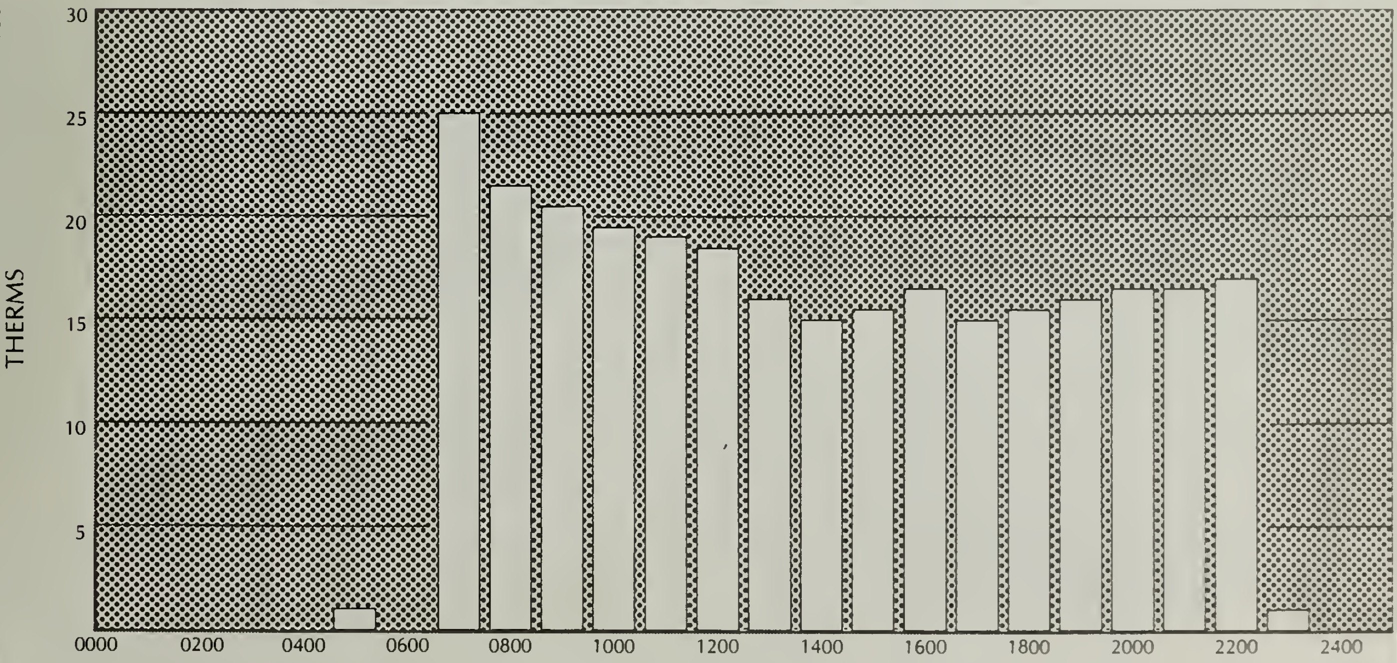
GAS CONSUMPTION, TYPICAL OFFICE BUILDING

FIGURE 39

SOURCE: DEPARTMENT OF CITY PLANNING



MONTHLY CONSUMPTION

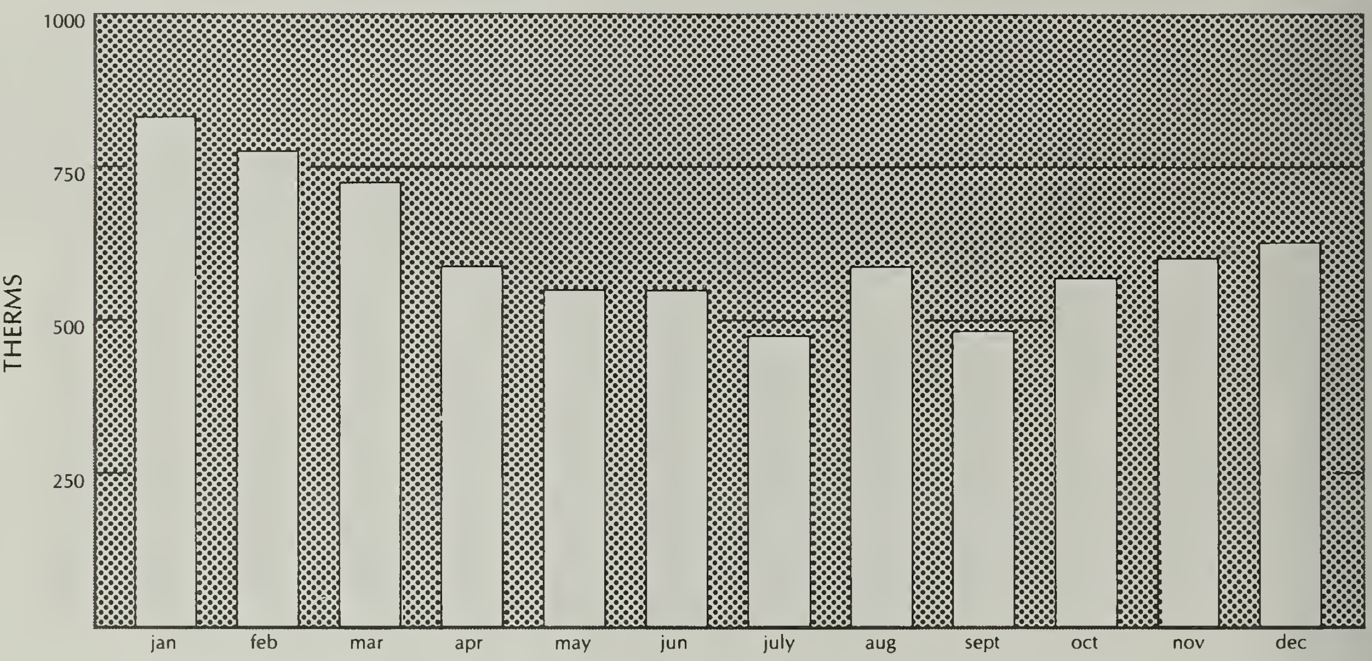


HOURLY CONSUMPTION

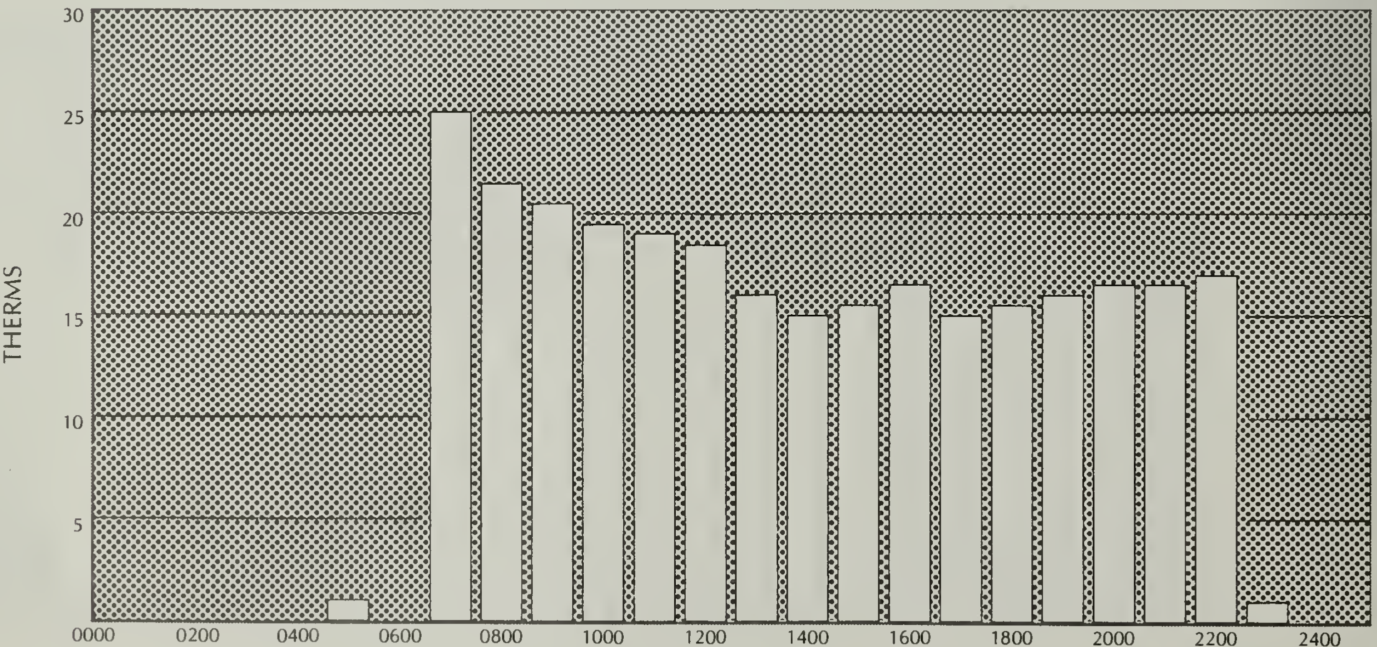
ELECTRICAL CONSUMPTION, TYPICAL OFFICE BUILDING

FIGURE 40

SOURCE: DEPARTMENT OF CITY PLANNING



MONTHLY CONSUMPTION



HOURLY CONSUMPTION

page A-49 for a list of these projects).[7] Pacific Gas and Electric Company, in examining its ten-year load growth projections for San Francisco, believes that growth rates of net new office space in the downtown area will diminish in the next decade from the historic figure of 1.5 million square feet per year to between 1 million and 1.2 million square feet per year.[8] Total increased energy demand for the next decade would be approximately 200 million kWh of electricity per year, less than projected using the cumulative list.[9] The lower PG&E prediction is largely due to its lower estimation of future development.

Projections of electrical use for growth that would occur under the Downtown Plan EIR indicate an increase of about 210 million kWh of electricity per year between 1984 and 1990 as a result of all new development occuring in the C-3 District. From the period 1984 to 2000, electrical consumption rates would increase annually by 330 to 350 million kWh above present figures, or 120 million to 140 million kWh per year above the increases estimated for the 1984-1990 period.[10] Electric requirements for development that would occur with the alternatives analyzed in the Downtown Plan EIR would increase between 300 million and 500 million kWh per year between 1984 and 2000.[11]

Natural gas consumption for new office development would be less than current demand, which includes consumption in older, less energy-efficient buildings.[7] Based on growth estimates contained in the Downtown Plan EIR, the Department estimates that, between 1984 and 2000, gas consumption will grow by 470 million cubic feet (about five million therms) per year of which 210 million cubic feet (about two million therms) per year would be for office uses.[10] Natural gas requirements for development that would occur with the alternatives analyzed in the Downtown Plan EIR would increase between 580 and 810 million cu ft (about six-nine million therms) per year between 1984-2000.

For two reasons, referenced estimates in the Downtown Plan EIR are not directly comparable to those estimates made by applying energy consumption factors to the square footage of projected cumulative development (list method). First, the list-based energy projections estimate energy demand at the time of full buildout (mid-1990s) rather than during the 1984-1990 and 1990-2000 time periods as in the Downtown Plan EIR. Second, about 75% of the projects on the March 10, 1984 list of projected cumulative development in downtown San Francisco fall within the C-3 District boundary, which means the list method estimates energy consumption for a larger area than the Downtown Plan EIR. The PG&E projection cannot be compared to the projections in the Downtown Plan EIR because they cover different time periods.

A comparison of the Downtown Plan and PG&E estimates for projected energy demands in downtown San Francisco for 1990-2000 is being prepared by PG&E in a report to be released later this year. PG&E plans to meet increased San Francisco energy demands to the year 2000 are discussed on pages IV.G.13-14 of the Downtown Plan EIR, which are hereby incorporated by reference. In summary, that material indicates the demand increases in electricity would be met from nuclear sources, oil and gas facilities, hydroelectric and geothermal facilities, and other sources such as cogeneration, wind and imports. PG&E plans to continue receiving most of its natural gas from Canada and Texas under long-term contracts.

Transportation demand generated by the proposed project would also result in energy consumption. The amounts of electricity, gasoline and diesel fuel which would be consumed by various modes of transit are shown in Table 14. These figures were calculated based on data contained in the Downtown Plan EIR. The total annual transportation energy which would be consumed by the proposed project is 214 trillion BTU, the energy equivalent of 38,000 barrels of oil.

TABLE 14

PROJECT RELATED ANNUAL TRANSPORTATION ENERGY CONSUMPTION [1]

	Electricity (kilowatt hours)	Gasoline (gallons)	Diesel (gallons)	Total BTU (millions)
Auto/Taxi/Jitney/Motorcycle		879,000		123,000
BART	5,261,000			53,900
Muni Electric	1,022,000			10,500
Regional Bus Systems			132,700	21,200
SPRR			34,300	5,500
Project Total	6,283,000	879,000	167,000	214,100

[1] The methods used to calculated these figures are described in detail in the Downtown Plan EIR, EE81.3, certified October 18, 1984, Appendix N. The associated data is contained in Table N.6.

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[1] Pacific Gas and Electric Company, 1981 Annual Report, San Francisco, California, 1982.

[2] Pacific Gas and Electric Company, 1980 Annual Report, San Francisco, California, 1981.

[3] This building will remain; therefore, its energy use was not included in this report.

[4] State of California Energy Resources Conservation and Development Commission, Conservation Division, Energy Conservation Design Manual for New Nonresidential Buildings, October, 1977.

[5] Unpublished building energy consumption data.

[6] Load curves for air-conditioned office buildings in San Francisco tend to be similar across a wide range of building designs. This is because energy consumption rates correlate well with outside temperature and working hours. The load curves shown in Figures 39 and 40, pages 169 and 170, were selected to provide an indication of the shape of the actual load curves, which cannot be calculated until the design work has proceeded further. An example of similar load curves can be found in the Final EIR for Second Street Square (82.591E), certified January 12, 1984.

[7] Energy consumption factors of 18 kWh sq.ft./year and 11 cu.ft./year (about 12100 Btu) are based on unpublished data of actual building consumption rates supplied by David Rubin, Department of City Planning, personal communication, April, 1984 and include base power consumption of the building core (uses covered by Title 24) and power demands of electric office machines (uses not covered by Title 24).

[8] Ken Austin, Commercial-Industrial Marketing Supervisor, Pacific Gas and Electric Company, letter of March 23, 1984. Available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister St., 5th Floor, San Francisco.

[9] PG&E's analysis of a typical office building yielded an annual consumption of about 17 kWh per sq.ft. per year which agrees with the City's estimate within the limits of estimation methodology.

[10] The Downtown Plan EIR uses a consumption rate factor of 18 kWh/square foot/year from 1984-1990 and 16 kWh/square foot/year from 1990-2000. These different factors are due to Title 24 revisions to reduce building energy budgets. These new standards would be reflected by lower electrical consumption in buildings constructed by 1990.

[11] San Francisco Department of City Planning, Downtown Plan EIR, Vol. I, pages IV.G.1-IV.G.17.

I. EMPLOYMENT, HOUSING AND FISCAL FACTORS

1. Employment

At full operation, the proposed project would accommodate an estimated 2,743 net new permanent jobs at the project site (see Table 15, page 175). These would include about 2,200 net new office workers (62 employees retained at 435 Sacramento Street and 2,142 employees at one worker per 275 square feet of net new office space for 589,000 square feet), 69 retail workers (at one worker per 350 square feet for 24,315 square feet), 101 restaurant workers (at one worker per 350 sq. ft. for 35,185 sq. ft.) 86 janitorial/service workers (at one worker per 12,000 total gross square feet for 1,020,500 square feet), 280 hotel jobs (at one worker per 908 square feet hotel space for 254,000 square feet) and 3 net new parking jobs.[1] No existing jobs would be displaced by the proposed project.

The jobs generated by the proposed project would create additional Bay Area employment through a multiplier effect. Assuming that the new jobs created as a result of the project were primarily in the Finance, Insurance and Real Estate (FIRE) sector, about 9,700 net new additional jobs in other sectors of the Bay Area economy could result (see Appendix G, Table G-1, page A-62). The multiplier encompasses jobs generated in the entire Bay Area; therefore, the specific number of additional jobs in San Francisco as a result of the multiplier effect cannot be to calculated.[2]

About 12,440 net new permanent Bay Area jobs would thus be supported by the project (2,742 net new direct jobs plus the 9,696 net new jobs induced by the multiplier).

Construction activities are expected to take about 24 months and generate about 2,270 person-years of construction labor or about 1,135 construction jobs.[3] As a result of the multiplier effect of project construction, about 3,510 additional person-years of employment would be generated in the Bay Area. Some of this secondary employment would be in San Francisco, although it is difficult to estimate the amount.

TABLE 15

PROJECTED NET NEW EMPLOYMENT AT PROJECT SITE

Employment Type	Net New Building Space (sq.ft.)	Space Per Employee[1]	Projected Net New Employees
Office	589,000	275 sq.ft.	2,204[2]
Retail	24,315	350	69
Hotel	254,000	908	280
Restaurant	35,185	350	101
Maintenance	1,020,300	12,000	86
Parking	4,550	5,100	3
TOTAL	1,020,500		2,743

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[1] Factors based on San Francisco Department of City Planning, Growth Management Alternatives for Downtown San Francisco - Downtown EIR Consultant's Report, May 1983, Table IV-C.2.

[2] Figure includes 62 employees retained at 435 Sacramento Street and 2,142 employees resulting from new office construction.

Note: Two existing buildings on the project site, the Federal Reserve Bank and 241 Battery Street, are vacant; office space in the 435 Sacramento Street building is occupied.

Source: Environmental Impact Planning Corporation.

2. Housing

The project would increase the demand for housing in San Francisco. According to the City Planning Commission's Office Housing Production Program (OHPP) guidelines, without subtracting formerly occupied, now vacant, office space on the site, the project would generate a net demand for 524 units in San Francisco.[4] This estimate assumes that 40% of the 2,204 new office workers would live in San Francisco and their new households would contain 1.8 San Francisco office workers. (There is 193,000 gsf of formerly occupied office space on the project site that would be redeveloped including rehabilitation of existing vacant space and demolition and replacement with office, retail, and related uses). Subtracting this floor area (193,000 gsf) yields 396,000 gsf. This would result in an OHPP requirement of 352 units. Under the OHPP guidelines, this latter number would be the housing obligation of the project.[4]

The project sponsor has agreed to loan the A.F. Evans Co., Inc., $750,000 to develop 101 units of federally assisted Section 8 elderly housing and a senior citizens center, in order to mitigate the estimated housing demand generated by the project. The project sponsor seeks 202 housing credits for this proposal. In consideration of this loan, the Department of City Planning has given preliminary approval to 202 housing credits under the guidelines of the OHPP. Final approval for issuance of housing credits by the Department would be contingent upon initial endorsement of the Section 8 Housing Assistance Payments Contract by the federal Department of Housing and Urban Development.[5] The sponsor would satisfy the balance of the requirement (150 housing units of project-generated housing demand) in accordance with OHPP guidelines (see Section V, Mitigation Measures, page 196). It should be noted that housing credits are not the equivalent of housing units. The Planning Commission must decide during the project approval process whether the above described proposal would mitigate housing demand due to the project.

An alternative analysis of the relationship between downtown office growth and housing demand in San Francisco was documented in a report prepared by Recht Hausrath and Associates, Economists, which appears as Appendix C, pages 289 through 329, of the 101 Montgomery Street EIR, certified by City Planning Commission Resolution 8941, May 7, 1981. This report is available for public review at the Office of Environmental Review, 450 McAllister Street, Fifth floor, and is hereby incorporated by reference into this EIR pursuant to Section 15149 of the California Environmental Quality Act (CEQA) guidelines.

This study estimated that 15% - 30% of the people newly employed in San Francisco as a direct result of the downtown office projects would move to San Francisco and that there is an average of 1.4 San Francisco workers in each San Francisco household which contains downtown workers. Under these assumptions, the project would generate a demand for about 170 to 339 households moving into San Francisco. The study further concluded that most people cannot afford housing costs in the City.

3. Housing Affordability

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15150a, discussion of housing affordability for new office workers is incorporated by reference from the Second Street Square Final EIR, 82.591E, certified January 12, 1984 (pages 53-55). Briefly, while a survey of occupants of a building comparable to the project would yield some housing affordability data, accurate identification of housing affordability characteristics for persons entering the San Francisco housing market as a result of a new office project is virtually impossible. Two major stops are required in such analysis. The first step involves identification of the workers who are newly employed in San Francisco as a result of the project. The problems with making such a determination include: a) the identity of persons employed in the newly constructed space cannot be known prior to occupation of the project; b) persons working in newly constructed space would not necessarily be newly employed in San Francisco; c) newly created employment opportunities may be filled by persons already employed in San Francisco; and d) persons newly employed in San Francisco in newly created jobs may not have obtained their jobs as a result of the project.

The second step involves determining the amount of money that the household of the new workers could, or would, pay for housing. Such an analysis would require a survey beyond the usual areas of housing preference, current housing costs and income, to determine personal household information such as family assets, debts, tax position, etc. Since many people may be unwilling to provide such personal information, the responses received would not accurately reflect current housing affordability.

A limited analysis of housing affordability, based on available data indicates that most project employees would not be able to afford ownership housing in San Francisco, although some employees, depending on the number of workers per household, would be able to do so. Most project employees, except the lowest-paid clerical employees desiring to live alone, would be able to afford rental housing in San Francisco.[6]

The problems with making such a determination include: i) the identity and financial resources of persons employed in the newly constructed space cannot be known prior to occupation of the project; ii) persons working in the newly constructed space (in old or newly created jobs) may not be newly employed in San Francisco; and iii) persons newly employed in San Francisco in newly created jobs may not have obtained their jobs as a result of new office development. Even if the number of new employees and their preferences for housing were known, a household's ability to pay for housing depends on a variety of factors in addition to individual income, such as family composition and housing preferences.[6]

4. Cumulative Effects

a. Downtown Office Space

The proposed project, together with other major downtown office buildings under formal review (8.7 million net new square feet), approved (4.8 million net new square feet) and under construction (5.1 million net new square feet) would add about 19.0 million gross square feet of net new office space if all were to be built (see Appendix E, Table E-2, page A-57 of this report). This list subtracts existing office space, on the sites of new buildings, that would be demolished. Of the 19.0 million square feet of office space on the cumulative list, about 13.0 million are within the C-3 District.

Projections for alternatives in the Downtown Plan Final EIR for the C-3 District indicate a total of about 70.5 million gross square feet of office space (including existing and proposed, approved, or under construction) in 1990 and between 77.5 and 86.5 million gross square feet of office space in 2000, an increase of 14.4 to 24.4 million square feet. The Downtown Plan would result in an increase of about 16.8 million square feet.[7] The forecasts considered land availability, location preferences, market conditions and economic trends as independent variables, plus various zoning and planning policies of the Downtown Plan, and the five alternatives analyzed in the Downtown Plan EIR. The forecasts in the Downtown Plan EIR are of space expected to be built and occupied in the C-3 District between 1984 and 2000.

The amounts of office space on the cumulative list and in these forecasts, although distinct from each other, can be compared. The list contains about 13.0 million square feet of office space in the C-3 District and the Downtown Plan EIR indicates about 8.4 million square feet of office space being added to the C-3 District between 1984 and 1990. The 13.0 million square feet on the list would be expected to be absorbed in the mid-1990s.

Office space projections for all alternatives in the Downtown Plan EIR for the year 2000 would exceed existing office space plus office space on the cumulative list, as the cumulative list cannot take into account projects not yet proposed. Office space on the cumulative list would be absorbed in the mid-1990s under all Downtown Plan EIR alternatives. These comparisons are based on the assumption that all projects on the cumulative list would be built as proposed and projects not yet proposed (not yet on the cumulative list) would not be built before the years identified above. In addition, these comparisons are based only on projects on the cumulative list within the C-3 District.

b. Residence Patterns and Housing

This section takes a long-term perspective, focusing on changes in downtown office workers living in San Francisco and the housing market implications of downtown growth.

Future Residence Patterns: Employment growth and building development in downtown San Francisco will result in more employees working and living in the City. Over time, more existing residents will take San Francisco jobs and others who take San Francisco jobs will move into the City.

Downtown Plan Forecast as Cumulative Context: Forecasts of residence patterns in the year 2000 were prepared for the Downtown Plan EIR.[8] The scenario of C-3 District building development and employment growth under the Downtown Plan, as described in the Downtown Plan EIR, incorporates the effects of policies affecting the size, cost and location of new development as well as underlying economic conditions influencing the demand for space. The forecasts of residence patterns for this growth scenario incorporate future housing, labor force and employment patterns in San Francisco and throughout the region and consider changing demographic, housing market and transportation factors.

According to the Downtown Plan forecasts, approximately 137,000 C-3 District office workers would be living in San Francisco in 2000. This represents an increase of 25,000 residents employed in C-3 District offices over the 112,000 estimated for 1984, a 22% increase.[9] Relatively more employed San Franciscans would be employed in C-3 District office jobs. The percentage of employed San Franciscans holding C-3 District office jobs would increase from 32% in 1984 to 34% in 2000. Relatively fewer C-3 District office jobs would be held by San Franciscans. The percentage of C-3 District office jobs held by San Franciscans would decline from 50% in 1984 to 45% in 2000. These changes would result from cumulative development and employment growth in the C-3 District between 1984 and 2000.

It is important to understand the difference between the two percentage rates cited above. In each case, the same estimate of the number of jobs held by San Francisco residents is compared to an estimate for a larger group: to all employed residents of the City in the first instance and to all C-3 District office employment in the second. The percentages are different since the number of employed residents is different from the number of office jobs. These percentages both describe the same employment situation, but from different perspectives.

The Downtown Plan forecasts fall within the range of estimates of C-3 District office workers living in San Francisco that was identified by the analysis of alternatives in the Downtown Plan EIR. By 2000, the alternative forecasts range from 136,000 to 140,000 office workers living in San Francisco. The growth from 1984 to 2000 ranges from 24,000 to 28,000 additional office workers living in the City. The relative comparisons described above apply to all the alternatives; the percentage of total employed San Franciscans working in C-3 District office jobs would increase while the percentage of C-3 District office jobs held by residents would decline.

The proposed project, if approved, would be developed during this time period; businesses and employees would occupy the Embarcadero Center West buildings and, therefore, the project would contribute to the changes described above. The project would add about 589,000 square feet of net new office space (not including 22,000 gsf retained at 435 Sacramento Street) to downtown San Francisco. Over the 1984-2000 period, a net addition of about 16.8 million square feet of office space is forecast for the C-3 District under the Downtown Plan.[10] (This estimate includes development of new office space and conversions and demolition of existing space.) The proposed project represents about 3 percent of the total increase in office space in the C-3 District over this period.

Two formulas have been developed to estimate residence patterns on a project basis. The assumptions as well as the formula variables and their values are different. Nevertheless, the estimates that they provide represent a range of possible results.

Using the OHPP formula, the project would be associated with about 940 office workers living in San Francisco. Using the 101 Montgomery EIR formula, the increase in office workers living in San Francisco would range from 353 to 707.[11] In the context of cumulative changes in residence patterns under the Downtown Plan, the project would contribute from 1.3 percent to 3.9 percent of the total change, depending on the formula. (For this analysis, the formulas have been used to develop estimates of increases in office workers living in San Francisco. These estimates have not been converted into numbers of households. This approach was taken so that the project-related information would be comparable to the Downtown Plan EIR analyses and forecasts which describe increases in office workers and do not identify households.)[12]

c. Estimates Based on the List of Office Projects in Downtown San Francisco

An alternative means of evaluating the cumulative effects of office buildings such as the proposed project is to use the list of all projects that are under formal review, approved, or under construction. As of March 10, 1984, the City's list of such projects includes the net addition of about 19.0 million square feet of office space. The list incorporates projects proposed in the greater downtown area, which is larger than the C-3 District. Of the 19.0 million square feet total, the list includes 13.0 million square feet in the C-3 District. This amount of space is smaller than the 16.8 million square feet forecast for the C-3 District by 2000 in the Downtown Plan EIR.

The proposed project would represent about 3.1 percent of the total net new office space on the March 10, 1984 cumulative list. To compare the project's effects to the potential overall effects if all the projects on the list were built as proposed, it is possible to calculate from the list the change in the number of downtown office workers living in San Francisco. The two formulas used above for estimating the project's effects are applied to the total square footage for all projects on the list.

The development of all projects on the list would result in about 30,400 additional downtown office workers who live in the City, according to the OHPP formula. Using the range from the 101 Montgomery EIR formula, there would be 11,400 to 22,800 additional office workers living in the City if all projects on the list were built. The project would represent about 3.1 percent of these larger estimates of office workers living in the City.

d. Differences In Cumulative Approaches

There are several important differences between the two approaches to cumulative analysis: the approach of forecasting space and employment and the approach of using a list of proposed projects. The first approach is currently limited to C-3 District office space while the second covers a larger geographic area. In addition, there is no definite time frame associated with the list, while the forecasts represent a best estimate of the development likely to be built and occupied from 1984 to 2000. Finally, the forecast methodology incorporates changes in economic activity and employment that would occur in the use of existing space while the list only includes the changes accommodated by new construction.[13] Because of these differences, the cumulative estimates of future residence patterns under each approach are not comparable. Within each approach, however, the project can be compared to the cumulative totals, as has been done above.

e. Housing Market Implications[14]

With continued office growth, there would be more people with preferences for San Francisco housing, with greater financial resources to pay for that housing. These effects would have impacts on the City's housing market.

At a minimum, continued office employment growth at the levels reflected by the Downtown Plan EIR forecast and the cumulative list would contribute to keeping prices and rents at their current levels (in constant dollars). Depending on the future of other factors (such as interest rates and the availability of mortgage money), employment growth could contribute to a situation where prices and rents are moderately higher, on average, than current levels.

Higher prices/rents for San Francisco housing would mean that some people would decide not to move into San Francisco, current residents who rent would find it more difficult to buy a home, and some existing residents would move out of the City if they find more acceptable housing elsewhere. Many others would continue to live in San Francisco and to pay higher prices/rents for City housing. Still others, who are unable to pay more, would be forced to accept housing that does not meet their preferences or needs. And finally, owners of existing units would benefit to the extent that their investments would appreciate.

The project, as part of the future pattern of downtown office development, would contribute to these housing market impacts. The project's individual contribution cannot be separately identified.

In terms of the region's housing market, downtown office development and employment growth would not, by themselves, make a noticeable difference in the housing markets in other Bay Area counties or in the region overall. As a part of total regional employment growth to the year 2000, however, increases in San Francisco office employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a competitive regional housing market with relatively high housing prices and rents.

5. Fiscal

a. Revenues

After occupancy in 1987, the proposed project would generate revenues of about $5.0 million from property payroll, sales, gross receipts, parking and utility users' tax. These revenues to the City's General Fund would represent an increase of about $2.0 million over current revenues generated on-site. The potential increased revenues over and above existing revenues, to San Francisco would be approximately $4,450,000. However, this figure is subject to a number of variables that could affect the estimates: property tax distribution could change in future years; payroll tax could vary according to the salaries of the employees in the proposed project; rents of the office space may change, thereby affecting the gross business tax; and the cost for utilities, particularly telephone, are also variable.

In addition to the annual revenues that would be generated by the project discussed above, the sponsor would be required to pay a one-time Transit Impact Fee to finance the increased cost of Muni services necessitated by the project, at the rate of $5 per gross square foot of new construction. Based on the $5 rate, the project would yield about $1,980,000.[15]

b. Costs

Costs to San Francisco for providing municipal services (i.e., fire, police and general government) to the proposed project are difficult to quantify. Most evidence indicates that overall costs per unit of service provided (per square foot or per employee) to a new building would be lower than costs for the existing buildings in the area. This reduction in per-square-foot costs would be primarily due to improvements in fire and security protection systems in new construction. Costs for water and sewer service would be paid through user charges.

Cost increases due to increased patronage would be expected for Muni, SamTrans, BART and Golden Gate Transit. The City's general fund provides for a subsidy to the Municipal Railway's operating budget. The subsidy covers the difference between Muni's costs and the revenues that Muni receives from fares and from federal and state governments and represents the cost of Muni to the City. This subsidy amounted to about 10% of total General Fund revenues in the 1984-85 budget; if this share were maintained, the proposed project would contribute approximately $196,100 annually to Muni through increased net revenues to the General Fund after occupany. The net marginal cost (or increase in the deficit for Muni operations) per peak-hour ride was $0.39 in 1982.[16] The proposed project would generate about 395 peak-hour trips (inbound and outbound) which could generate an annual cost to Muni of $40,100. The extent to which this marginal cost increase cost would be met by the general fund allocation to Muni is not known. However, it appears that the increase in general fund allocations generated by the proposed project would offset a portion or all of the about $40,100 peak hour marginal costs to Muni. State and federal funds to Muni are decreasing and the City is reviewing other options for increased revenues.

It is estimated that 250 peak-hour trips a day on BART would be generated by the proposed project's employees. The deficit per rider for BART is estimated at $1.06.[17] Using this rate, the proposed project would generate a deficit of about $86,500. However, additional property tax and sales tax revenues generated by the project for BART would yield a surplus of about $82,300 over the operating deficit.

If the same proportion of general fund revenues historically allocated to Muni continues, it could be assumed that the proposed project revenues would exceed municipal costs directly attributed to the project at the time of occupancy. Due to limitations imposed by Proposition 13 on property tax increases, revenues might not increase as rapidly as inflationary increases in City costs. If all current sources of revenue associated with the proposed project were held constant (i.e., if fees and rates do not change and no new assessments are levied) costs would eventually exceed revenues.

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[1] Office employment derived from: San Francisco Department of City Planning, Interim *Guidelines for Administering the Housing Requirements Placed on Office Development under OHPP*, January, 1982. Retail, hotel, parking and maintenance employment derived from Table IV-C.2 in *Growth Management Alternatives for Downtown San Francisco - Downtown EIR Consultant's Report*, May, 1983.

[2] All multipliers based on the Association of Bay Area Governments Study, *1980 Hybrid Impact - Output Model for the San Francisco Bay Region*, April 1984, page XIV. The multipliers used in the analysis are Type II, which includes indirect and induced employment generation, and should be viewed as the theoretical maximum impact level. Actual employment generation would probably be somewhat less. Direct office multiplier = 4.04; retail multiplier = 1.22; maintenance multiplier = 2.36; hotel multiplier = 1.37; restaurant multiplier = 1.22. Construction employment multiplier = 1.55.

[3] An estimated $150,000,000 (1984 dollars) would be spent during construction. Employment estimate assumes labor costs would be about 30% of the total including direct wages, payroll taxes and fringe benefits, and annual cost of $37,800 per construction worker. Estimate made by Recht Hausrath and Associates, based on oral communication with Stan Smith, San Francisco Building and Construction Trades Council, October 27, 1982.

[4]
$$\frac{\text{589,000 gsf of net new office}}{\text{250 square feet per employee}} \times 40\% \div 1.8 = 524 \text{ housing units}$$

$$\frac{\text{396,000 gsf net new office}}{\text{250 square feet per employee}} \times 40\% \div 1.8 = 352 \text{ housing units}$$

40% = percent of San Francisco workers who live in the City
1.8 = workers per household

The OHPP allows discounting of formerly occupied office space if that space is redeveloped or retained in office, retail, and related uses. Therefore, the 193,000 gsf of formerly occupied office space would be redeveloped or replaced with office, retail, and other uses is subtracted from the total net new office space figure used in the OHPP formula. Net new office space would thus total 396,000 gsf for the purpose of the OHPP formula. San Francisco Department of City Planning, Interim Guidelines for Administering the Housing Requirements Placed on Office Development under OHPP, January 1982, page 5.

[5] Letter from Dean Macris, Director of San Francisco City Planning Department, to E. Glenn Issacson, Senior Vice President, Rockefeller Center Development Corporation, June 16, 1983. This letter is on file at the Department of City Planning, 450 McAllister St., Fourth Floor, San Francisco.

[6] Questor Associates, Feasibility of Performing a Housing Affordability Analysis, June 15, 1982. This study is available for public review at the San Francisco Department of City Planning, 450 McAllister Street, 5th Floor.

[7] Department of City Planning, Downtown Plan Final EIR, EE81.3, certified October 18, 1984, pages IV.B.17-IV.B.31 and Appendix G, pages G.37-G.41.

[8] For a description of the methodology used to forecast residence patterns, see Appendix I, Downtown Plan EIR, EE81.3, certified October 18, 1984, pages I.8 - I.30. For a description of existing and forecast future residence patterns of C-3 District workers, see Downtown Plan EIR, Section IV.D, Residence Patterns in Housing. Appendix I and Section IV.D of the Downtown Plan EIR are hereby incorporated by reference into this EIR pursuant to Section 15150 of the CEQA Guidelines.

[9] Downtown Plan EIR, page I.36. Only the forecasts of residence patterns for C-3 District office workers are described here. The Downtown Plan EIR presents residence patterns for all C-3 District workers, of which office workers represent the largest group. The forecasts presented here are for all C-3 District office employment, including management/technical and trade/customer service office activities.

[10] Downtown Plan EIR, page IV.B.34.

[11] There are two primary reasons for the differences in the estimates of office workers living in San Francisco as derived from the two formulas. One is that they include different assumptions about the increase in office workers living in San Francisco (40% in the OHPP formula as compared to 15-30% in the 101 Montgomery EIR formula). The 101 Montgomery EIR formula includes the low estimate (15%) to adjust for the fact that some increase in downtown office workers will include individuals who already live in San Francisco when they become newly employed in a downtown office job.

Secondly, both formulas above were derived from earlier data bases. Therefore, the Downtown Plan EIR analysis and forecasts are not identical to the formulas. Procedures for applying that analysis on a project basis have not been developed. However, the results of applying such a revised formula would likely fall within the range identified by the two existing formulas described herein.

[12] See Downtown Plan EIR, pp. IV.D. 76-77, for a discussion of reasons why increases in the number of City residents working in the C-3 District do not necessarily represent corresponding increases in the number of households. This section is herein incorporated by reference.

[13] As explained in the Downtown Plan EIR, the use of existing space is expected to intensify by the year 2000. As a result, office employment is forecast to exceed the growth of employment accommodated by the development of office space. For example, from 1990 to 2000, more intensified use of existing space to accommodate employment growth would be equivalent to about a 40 percent increase in the net addition of office space forecast for that period. (See page IV.B.41 in Downtown Plan EIR.)

[14] This subsection presents a summary of the discussion in the Downtown Plan EIR. (See pages IV.D.77-IV.D.82.)

[15] The one-time Transit Impact Fee requires developers of office projects in San Francisco to contribute to a fund to finance the increased cost of Muni services necessitated by their projects at the rate of $5 per gross square foot of new construction. This ordinance was recently upheld in San Francisco Superior Court. Based on application of the $5 rate to net new office space, less existing on-site formerly occupied office space to be demolished or rehabilitated (589,000 gsf -193,000 gsf = 396,000 gsf), the project would yield $1,980,000.

[16] According to Bruce Bernhard, Muni Chief Accountant, telephone conversations, August 10 and 23, 1982, the average $0.39 deficit per mile is based on 1980-81 Muni budget figures of an additional cost per ride (marginal cost) of $0.71 and an average fare revenue per trip of $0.32. Muni is unable to provide more recent data on cost and revenue figures per passenger. The $0.39 figure is still considered valid (James Smith, Senior Administrative Analyst, Muni, telephone conversation, November 8, 1983). The deficit due to the project would be 102,821 annual per hour Muni trips x $0.39 deficit per ride = $40,100. The total annual Muni trips were derived using the 24-hour trips methodology specified in the Guidelines for Environmental Impact Review: Transportation Impacts, Department of City Planning, September 1983.

[17] Ward Belding, Supervisor of Office of Research, Bay Area Rapid Transit District, telephone conversation, May 1984.

J. GROWTH INDUCEMENT

Not including the 22,000 gsf of existing office space in the 435 Sacramento Street building, which would remain, the project would add approximately 589,000 gsf of office space, 24,315 gsf of retail space, 35,185 gsf of restaurant space, and 254,000 gsf of hotel space to the Financial District.

At full operation, the project would provide about 2,740 net new permanent jobs, including office, managerial, retail, restaurant and maintenance positions. Occupants of the proposed project are not known, but would probably include tenants expanding or relocating from other San Francisco locations, tenants from outside San Francisco and firms that are new to the Bay Area. Therefore, the increase in employment at the site would not necessarily represent only employment that is new to San Francisco. To the extent that the buildings are fully leased, and the availability of their space does not create permanent vacancies in other Bay Area office buildings, total employment in the Bay Area could additionally increase by about 12,440 permanent jobs (2,743 direct jobs plus 9,696 jobs created in the Bay Area through the multiplier effect. See Section IV.I, page 174).

Any net increase in downtown employment including that associated with project office space would increase the demand for retail goods and services in the area. This demand would be met, in part, by retail space proposed within the project. The project would be built in a developed urban area and would not require new construction or extension of public services or utility systems.

The project would add about three percent of office space growth to downtown San Francisco. To the extent that the project would attract new residents or commuters who otherwise would not have been attracted to San Francisco or the Bay Area, the demand for commercial, social and municipal services would be increased.

If marketed successfully, the proposed project, together with other planned office development, could have growth-inducing effects by demonstrating a market for office space in this area, thereby encouraging similar development on lots (including smaller lots assembled for development) currently occupied by low-rise structures containing business support services. This market demand for office space is independent of the project. As indicated in a report prepared by Coldwell Banker on office vacancies in the downtown areas of 22 U.S. cities, San Francisco's office vacancy rate remains below the national average.[1] Demand for office space continues the trend of growth in the service sector and in headquarters office activities in San Francisco. The increase in downtown office space and employment would contribute, in turn, to continued growth of local and regional markets for housing, goods and services.

These effects would be less extensive if the vacancy rate for office space rises. In that case, projected increases in downtown employment would be less and the growth in demand for goods, services and housing would be lower.

It is expected that some new downtown workers, including some in the project, would want to live in San Francisco. Employment growth, however, may not directly correspond to increases in demand for housing and City services to residents, as some new jobs would be held by individuals who already live in the City but who previously either did not work or worked outside the City; by those preferring to live in surrounding communities; or those unable to locate or afford housing in the City. New downtown workers would also increase demand for housing in other parts of the Bay Area.

Increases in downtown employment would also increase demand for business services to the extent that new space would not be occupied by firms providing those services. In response, businesses providing those services would increase demand for existing space and, possibly, induce further new development.

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[1] Coldwell Banker, Office Vacancy Index of the United States, September 30, 1984.

V. MITIGATION MEASURES THAT WOULD MINIMIZE THE POTENTIAL ADVERSE IMPACTS OF THE PROJECT

In the course of project planning and design, measures have been identified that would reduce or eliminate potential environmental impacts of the proposed project. Some of these measures have been, or would be, adopted by the project sponsor or project architects and contractors. Some may be implemented by public agencies, and the remainder are not included in the project. Mitigation measures included as part of the project and presented in the Initial Study are reproduced below. The City Planning Commission could require that some, or all, of these measures be included as conditions of project approval.

Each mitigation measure, including its status, is discussed below. Where a measure has been rejected by the project sponsor, the reasons for this are discussed.

A. TRANSPORTATION

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- The placement of paving, landscaping or structures in publicly accessible areas (subject to City approval) would be done in such a way as to minimize interference with pedestrian traffic.

- Subject to City approval, Commercial Street would be closed to vehicle traffic between Sansome and Battery Streets. This portion of Commercial Street would be converted at the sponsor's expense into a landscaped pedestrian area with a ramp and stairway leading to the lobby-level retail area. The pedestrian way would have a fountain, trees, and seating. The ramped stairway would ascend from the street level up to the pedestrian bridges connecting Parcels 1, 2 and 3, and connecting the project over Battery Street to the Embarcadero Center. This measure would encourage pedestrian use on Commercial Street between Sansome and Battery Streets, in accordance with the Downtown Plan, Proposal for Citizen Review, August 1983[1] and the City's Center City Pedestrian Circulation and Goods Movement Study.[2] Neither of these documents recommend permanent full time closure of this section of Commercial Street to vehicular traffic, as the project proposes. Both documents recommend exclusive pedestrian use between the hours of 11 a.m. - 2 p.m.

During the construction period, construction truck movement would be permitted only between 9:00 a.m and 3:30 p.m. to minimize peak-hour traffic conflicts. The project sponsor and construction contractor would meet with the Traffic Engineering Division of the Bureau of Engineering of the Department of Public Works, the Fire Department, Muni and the Office of Environmental Review to determine feasible traffic mitigation measures to reduce traffic congestion during construction of this project and other nearby projects.[3] To minimize potential cumulative traffic impacts due to lane closures and street excavations during construction, the project sponsor would coordinate with construction contractors for any concurrent nearby projects. The contractor would maintain pedestrian access along Battery, Clay, Sacramento and Halleck Streets during construction.

- A member of the Embarcadero Center West management staff would be designated as a "transportation broker" to coordinate measures as part of a transportation management program, such as: encouraging a flexible time system for employee working hours (to be developed by project tenants in consultation with the Department of City Planning) to reduce peak-period congestion by planned spreading of employee arrivals and departures; encouraging transit use through the on-site sale of BART, Muni and other carrier passes to employees; and encouraging employee carpool and vanpool systems in cooperation with RIDES for Bay Area Commuters by providing a central clearinghouse for carpool and vanpool information. This measure would reduce the transportation impacts of the project.

- Within a year of full project occupancy, the project sponsor would conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for carpools and vanpools. The project sponsor would make this survey available to the Department. This measure would provide needed information to aid in transportation planning within the City. Alternatively, at the request of the Department, the sponsor would provide a fair and equitable in-lieu contribution toward an overall transportation survey for the downtown area, to be conducted by the City.

- Two bicycle storage spaces would be provided by the project for commuters and short-term visitors.

- While subsurface sidewalk vaults are discouraged, should they be needed, the project sponsor would design subsurface sidewalk vaults to allow for possible future widening of adjacent streets. The project would also include loading and service area under Commercial Street and loading access under Sacramento Street, which would be designed to allow for such widening. Vault design and underground development for service/loading access shall be of sufficient strength to carry maximum vehicular live and dynamic loads. Design of these areas to accommodate street trees would also be made, subject to Department of Public Works approval. In addition, should vaults exist or be installed as part of the project, and for development under Commercial and Sacramento Streets, the project sponsor would accommodate and pay for the installation of all subsurface footings, supports and foundations as may be required for future public improvements such as street lights, street trees, trolley wire poles, signs, benches, transit shelters, etc. within project areas. Placement of such improvements is entirely within the discretion of the City.

- The project sponsor would, in consultation with the Municipal Railway, install eyebolts or make provisions for direct attachment of eyebolts for Muni trolley wires on the proposed project buildings wherever necessary or agree to waive the right to refuse the attachment of eyebolts to the proposed buildings if such attachment is done at City expense.

- The proposed pedestrian bridges would be designed so they could accomodate and would not interfere with Muni Trolley wires on Sacramento or possible future trolley wires on Battery Street.

- Building directories and signs for the service elevators would be placed in the loading areas.

- The sponsor, under the direction of Muni, would provide and maintain bus shelters at the four bus-stops contiguous to the project site (see Figure 19, page 58, for location of Muni stops).

The following measure is under consideration:

- Closure of Commercial Street within the project site and conversion to a pedestrian walkway could result in pedestrians crossing Battery Street mid-block rather than crossing at corner crosswalks. After completion of the project, a survey would be taken by the sponsor under Department of Public Works direction to determine if significant numbers of mid-block crossings occur. If it is found that crossings occur, the sponsor would install a mid-block traffic signal as part of the project. The City would then mark the crosswalk.

OTHER MITIGATION MEASURES

- Pacific Gas and Electric Company would coordinate work schedules with other utilities requiring trenching, so that street disruption would take place during weekends and off-peak hours. This would be done through the San Francisco Committee for Utility Liaison on Construction and Other Projects (CULCOP). This measure is outside the jurisdiction of the sponsor and would be implemented by CULCOP.

B. AIR QUALITY

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- Measures to reduce traffic volumes or congestion would also reduce air pollutant emissions. These include encouragement of transit use by employees, flexible work hours, bicycle parking, and contribution of funds for maintaining and augmenting transit service.

- The California Health and Safety Code requires that demolition materials and soils be watered to minimize dust generation. The project sponsor would require the contractor to implement a twice-daily watering program, which would reduce the likelihood of airborne construction dust and particulates exceeding state and federal standards. An effective watering program (complete coverage twice-daily) can reduce emissions by about 50%. Adjacent streets would be mechanically swept by the demolition and excavation contractors so that silt would not be washed into the storm drains and dust would be removed.

C. CULTURAL AND HISTORIC RESOURCES

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- Prior to issuance of a site permit, the project sponsor shall retain an historical archaeologist (or other qualified expert) to perform archival research and site inspection to determine the potential for discovery of cultural or historic artifacts on the project site. Results of this investigation shall be reported to the Environmental Review Officer.

  The Environmental Review Officer in consultation with the Secretary to the Landmarks Preservation Advisory Board and the archaeologist shall determine whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of cultural or historic artifacts, and the procedures to be followed if such artifacts are uncovered.

  In the event of high probability of discovery of cultural or historic artifacts, the Environmental Review Officer may require that an archaeologist be present during site excavation and record a daily log of observations. The Environmental Review Officer may also require cooperation of the project sponsor in assisting such further investigations on site as may be appropriate prior to or during project excavation, even if this results in a delay in excavation activities.

  Should cultural or historic artifacts be found during project excavation, the archaeologist would assess the significance of the find, and immediately report to the Environmental Review Officer and the Secretary of the Landmarks Preservation Advisory Board. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate. This maximum of four weeks shall include any other time periods for which the Environmental Review Officer has required a delay in excavation activities.

D. CONSTRUCTION NOISE

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- The construction contract would specify that the contractor muffle equipment so that noise levels would not exceed the limits stated in the City Noise Ordinance (Article 29, San Francisco Administrative Code, 1972). Construction noise in the City and County of San Francisco is controlled by Ordinance 274-72, Regulation of Noise, Section 2907. The ordinance requires that all powered construction equipment, except impact tools and equipment, emit not more than 80 dBA measured at 100 feet (86 dBA at 50 feet). Impact tools and equipment, including pavement breakers, jackhammers, and pile drivers must have both intake and exhaust muffled to the satisfaction of the Director of Public Works. The ordinance further requires a special permit for construction after 8:00 p.m. and before 7:00 a.m.

- The use of shrouds or enclosures would be incorporated to reduce pile-driving noise impacts by up to 15 dBA. Other measures that would be incorporated to reduce pile-driving noise impacts include restricting pile-driving hours and requiring that the pile holes be predrilled. Predrilling the holes reduces the number of blows required to drive each pile home, thereby reducing the total noise exposure of the surrounding area.

- Other techniques that would be incorporated to minimize construction noise impacts include: locating fixed noise sources, such as concrete pumpers, portable air compressors, portable generators, and pumps as far as possible from existing land uses; and erecting noise barriers around sidewalks, pit areas, and stationary equipment, where possible. A solid, eight- to ten-foot plywood fence would be erected around the construction perimeter to reduce the project's impact on ground-level noise in the area. These measures could reduce noise by as much as 5 dBA.

- Construction activities would be limited to hours between 7 a.m. and 7 p.m. to limit disturbance of residents in the Golden Gateway Center, northeast of the site. (The noise ordinance limits noise after 8 p.m.)

- The sponsor would notify all offices within 100 feet of the project vicinity of the times and days of construction activity. This would allow businesses, to the extent necessary and possible, to adjust their schedules around the construction activity.

E. HOUSING

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- The City's Office Housing Production Program (OHPP) stipulates mitigation of housing impacts. The project is estimated to generate a demand for 524 new housing units in the City, based on the OHPP guidelines. There is 193,000 gsf of formerly occupied office space on the project site that would be redeveloped (including rehabilitation of existing vacant space, and demolition and replacement with office, retail, and related uses). Subtracting this floor area yields a floor area of 396,000 gsf. This would result in an OHPP requirement of 352 units. The project sponsor has entered into an agreement to loan funds for the purpose of developing 101 units of Section 8 (Federally assisted) elderly housing and a senior center. Upon initial endorsement by the federal Department of Housing and Urban Development, the sponsor would receive 202 OHPP housing credits. The sponsor would satisfy the balance of the housing requirement (150 units) in accordance with OHPP guidelines. Housing credits are not the equivalent of housing units. The Planning Commission would decide whether the above program of credits and units would mitigate the housing demand generated by the project.

MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED PROJECT

- The sponsor could cause an additional 172 housing units to be constructed (the difference between the OHPP requirement and the housing demand prior to subtraction of existing formerly occupied office space identified above). The sponsor has rejected this measure because it would be in excess of the housing obligation for the project established under OHPP guidelines.

F. ENERGY

MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED PROJECT

Potential mitigation measures under consideration as part of the design process include, but are not necessarily limited to, the following:

- increased use of daylighting
- passive solar features
- load shedding

- individual utility metering
- individual fan units on each floor
- parabolic lighting
- high-efficiency ballasts for fluorescent lighting
- high efficiency motors
- economizer cycle on air handlers
- computerized energy management
- fluorescent lighting (wattmisers) with four bulbs per fixture instead of two
- energy-efficient outdoor lighting
- timed switches on closet and storeroom lights
- variable air-volume air handling system
- low flow plumbing fixtures
- heat recovery and cogeneration
- carbon monoxide monitors in garage to control ventilating equipment
- use of purchased steam for energy supply.

The building would be required to meet State Title 24 performance requirements; the measures listed above would help meet these requirements. Final decisions would be made on the basis of life cycle costing and compatibility with the overall design; a separate report would be prepared and made available to the Department of City Planning prior to the issuance of the relevant site permit addenda, and would explain the decisions regarding which energy conservation features would be included in the final design.

G. GEOLOGY, SEISMICITY AND HYDROLOGY

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- A detailed geotechnical report for the site would be prepared by a California-licensed soils or geological engineer for the project sponsor. The project sponsor and contractor would follow the recommendations of the report regarding project excavation and construction. For example, a decision would be made regarding the type of foundation and system of construction after completion of geotechnical studies (currently in progress at the site).

- Control lines and benchmarks would be identified on buildings adjacent to construction work, including the Federal Reserve Bank building, to monitor potential horizontal and vertical movements due to construction activity.

- During excavation, the contractor would shore up and protect the walls of the excavated area to minimize the potential for worker hazards and damage to the foundations of neighboring buildings, and the Federal Reserve Bank building.

- As with conventional waterproofing and pit support systems, the slurry trench wall must extend well below the bottom of the basement excavation to gain sufficient lateral support at its base and to reduce the amount of groundwater seeping into the pit. The pit would be dewatered by sumps and wells on the site. Recharge wells around the edge of the pit could be used to maintain the groundwater level outside the pit wall, if necessary. This would prevent consolidation of soils supporting adjacent structures and would avoid exposing nearby wooden foundations to dry rot. The Federal Reserve Bank, which has a wooden foundation, would be protected by this measure. This measure will be included in the project if it is found that nearby wooden foundations may be exposed.

- Should dewatering be necessary, the final soils and foundation report shall address the potential settlement and subsidence impacts of dewatering of the site. Based upon this discussion, the report shall contain a determination as to whether or not a lateral movement and settlement survey should be done to monitor any horizontal or vertical movement of the Federal Reserve building and of surrounding buildings and adjacent streets. The report shall also contain a determination as to whether or not vibration of the elevator core in the building adjacent to Parcel 1 during pile driving will disrupt elevator operations. If a monitoring survey is recommended, the Department of Public Works will require that a Special Inspector (as defined in Article 3 of the Building Code) be retained by the project sponsor to perform this monitoring. If, in the judgment of the Special Inspector, unacceptable movement were to occur during dewatering, groundwater recharge would be used to halt this settlement. Costs for the survey and any necessary repairs to service under the street would be borne by the contractor.

The following mitigation measures are under consideration:

- To minimize potential soil movements and consequent damage to adjacent foundations, the excavation could be made using the slurry trench wall method. In this method, a series of holes is drilled around the edge of the excavation site. A guide rail shaped like an I-beam is installed in each drilled hole. The soil between adjacent guide rails is then removed using a clam-shell bucket (similar to a dredging shovel) to dig a trench from one guide rail to the next. During soil removal, the trench walls are supported by pumping a mixture of pulverized minerals suspended in water (i.e., a slurry) into the trench. Upon completion of the trench, reinforcing steel is set into the trench. The trench is then filled with concrete to produce the slurry trench wall. This wall serves as support for the pit wall and also provides a high degree of watertightness. The completed slurry trench wall can be used as part of the permanent basement wall of the building, thus eliminating the cost of constructing a separate structural wall and of removing any temporary pit waterproofing and support systems (sheeting and shoring). A wall high enough to be used with a mat foundation would need an internal bracing system. Bracing could be temporary (for use during the construction period) or could be designed to be incorporated in the floors and frame of the finished building. The geotechnical study will determine what the most appropriate foundation will be. A decision to include this measure in the project would be based on the findings of the study.

H. HAZARDS

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to ensure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency. The project plan would be reviewed by the Office of Emergency Services and implemented by building management insofar as feasible before issuance of final occupancy permits by the Department of Public Works.

I. WIND

MITIGATION MEASURES INCLUDED IN THE PROPOSED PROJECT

- The exceedences of the comfort criterion predicted for west winds along Halleck Street would apparently be caused by the interaction between the proposed Parcel 3 building and existing buildings. The narrowness of the streets also contributes to the "funneling" of west winds between the buildings. A quantitative evaluation of the proposed project would be undertaken prior to construction to determine what design changes to the project would be required to conform to comfort criteria of the

Downtown Plan. The findings of the evaluation would serve as the basis for design changes, subject to City approval.

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[1] San Francisco Department of City Planning, The Downtown Plan, Proposal for Citizen Review, August, 1983, pages 138 and 143, as amended to date.

[2] Wilbur Smith and Associates, San Francisco Center City Pedestrian Circulation and Goods Movement Study, September, 1980, page 30.

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

No project-specific significant impacts have been identified. Mitigation measures included as part of the project are described in Chapter V., Mitigation Measures, page 190.

Cumulative development in Downtown San Francisco would have a significant effect on the environment in that it would generate cumulative traffic increases as well as cumulative passenger loadings on Muni, BART and other regional transit carriers. These cumulative transportation impacts could cause violations to total suspended particulate (TSP) and localized carbon monoxide (CO) standards in San Francisco with concomitant health effects and reduced visibility. The proposed project would contribute to these cumulative effects.

The chapter is subject to final determination by the City Planning Commission as part of their certification process. Chapter VI of the Final EIR will be revised, if necessary, to reflect findings of the Commission.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

This chapter identifies alternatives to the proposed project, discusses their environmental impacts and the reasons for their rejection by the sponsor in favor of the project. Regardless of the sponsor's reasons for rejection, the City Planning Commission could approve an alternative instead of the proposed project if the Commission believes the alternative would be more appropriate for the site.

A. ALTERNATIVE ONE: NO PROJECT

1. Description

This alternative would involve no change to the project site as it now exists. The Federal Reserve Bank building would not be rehabilitated, the 241 Battery Street building would not be demolished, and the surface parking lot would not be replaced by the proposed hotel. The portion of Commercial Street to be converted to a landscaped pedestrian area would not be altered; nor would pedestrian bridges be constructed over Battery, Sacramento and Commercial Streets.

This alternative would hold open future options for the land to be developed under other permitted uses in the C-3-0 district, as a whole parcel or individual parcels.

2. Environmental Impacts

With retention of the project site in its present state, none of the impacts of the proposed Embarcadero Center West project would occur. The existing transportation and air quality conditions (see Section III.D., Transportation, page 57, and III.E., Air Quality, page 61) would continue on streets around the site. The peak-hour level of service on the streets would remain unchanged by the proposed development and Muni ridership would be 0.7% lower in the year 2000 than if the proposed project were implemented. Current levels of parking demand, and noise, air pollution, energy consumption, wind, shadow and visual impacts would not change as a result of the project (see Section III.A. Table 4, page 71).

3. Reasons for Rejection

The project sponsor has rejected this alternative because the site currently contains three structures and a parking lot at a combined FAR of 4.7:1, and, in the opinion of the sponsor, the no project alternative would perpetuate an inefficient and wasteful use of land resources within the City's central business district. This alternative would not develop the maximum investment potential of the site. In the sponsor's view, it would not respond to policies of the Commerce and Industry Element, namely: to improve San Francisco's position as a center for financial, administrative and corporate activities and provide amenities for people who live and work in the downtown area.

The proposed project would incorporate adaptive reuse of the Federal Reserve Bank building and reflect the design treatment of the existing Embarcadero Center. The proposed pedestrian bridge over Battery Street would link the project with the Embarcadero Center and interrelate its publicly accessible open spaces. For the above reasons, the proposed project could not be built at another location. Hypothetically, development of a similar project elsewhere in downtown San Francisco would result in impacts similar to the project. The impacts of a similar project at a location outside of San Francisco would largely depend on the location and cannot be accurately assessed at this time.

The project sponsor has rejected development of the project in a different location because of existing interests in the site, the site's relationship to the existing Embarcadero Center, and the sponsor's belief that the project site is a prime location for office and hotel space in San Francisco.

B. ALTERNATIVE TWO: NO EXCEPTIONS TO THE PLANNING CODE

1. Description

This alternative would be constructed in conformity with the San Francisco Planning Code and would not require encroachment permits or Master Plan Referral as discussed in Section II.D., Project Schedule, Cost and Required Approvals, page 28. This alternative would not incorporate pedestrian bridges over Battery, Sacramento and Commercial

Streets; Commercial Street between Sansome and Battery Streets would remain open to vehicle traffic; and construction would not occur under Commercial or Sacramento Streets (see Figure 41, page 205).

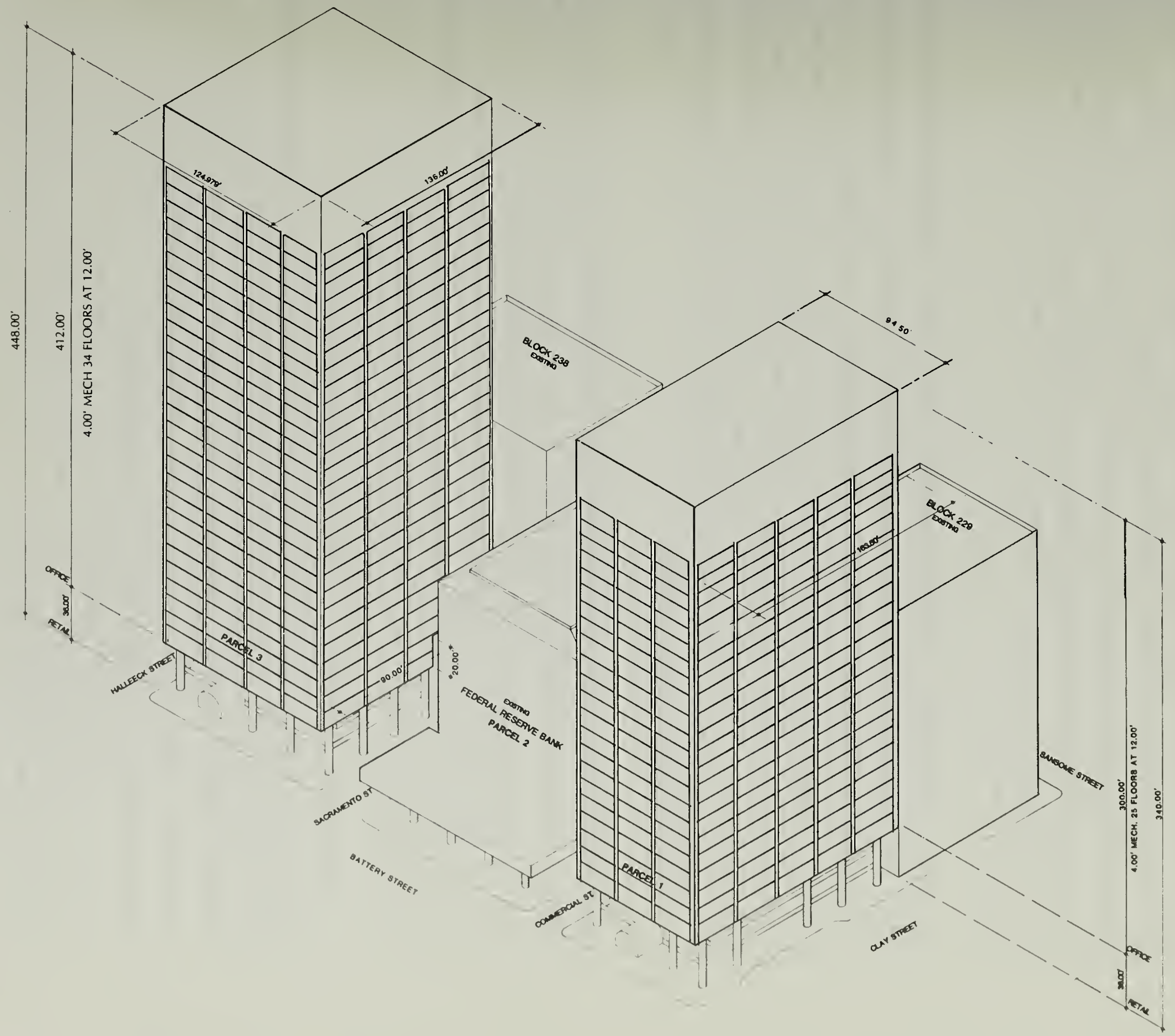
Loading facilities would be located at grade for each parcel; parking would be provided below grade for Parcels 1 and 2. In lieu of the proposed project's portico/addition containing retail and open space on the east side of the Federal Reserve Bank, the existing street-level loading structure would be modified and retained for loading and service.

The basic FAR applicable to the site is 14:1. This alternative would transfer 41,000 square feet of unused allowed floor area from 350 Sansome Street. Pursuant to Section 127 of the Planning Code, the maximum permitted gross floor area for any development in a C-3-0 district may be increased by a transfer of development rights from an adjacent lot. Thus, the ratio of built area to construction site for this alternative would be 14.6:1. Building heights for this alternative would conform with existing height limits of 400 feet for Parcels 1 and 2 and 450 feet for Parcel 3. (It should be noted that if the Downtown Plan is implemented as proposed, the FAR requirement and Section 127 of the Code would be revised.)

Parcel 1 would contain a hotel with approximately 347,000 gross square feet (gsf) of hotel space (515 rooms) and 5,000 gsf of retail space, compared with 254,000 gsf of hotel space (330 rooms) and 2,500 gsf of retail with the project. The structure would rise 340 feet (28 stories), compared to 250 feet (24 stories) with the project. As with the proposed project, the hotel lobby, meeting rooms and retail space would be provided on the first three levels; the remaining levels would contain hotel rooms and a mechanical floor. Access to the street-level loading and service facilities and below-grade parking facilities would be from Commercial Street.

ALTERNATIVE 2: NO EXCEPTIONS TO THE PLANNING CODE

FIGURE 41



Parcel 2 would include adaptive reuse of the Federal Reserve Bank. Street-level loading and service facilities would be located at grade with Battery Street access. These at-grade facilities would violate the agreement made between the project sponsor and the Foundation for San Francisco's Architectural Heritage for the rehabilitation of the Federal Reserve Bank (See Section IV.B, page 79). The rehabilitated building would have the same amount of retail and office space as the project. Approval of this alternative for development would require re-negotiation of the agreement between the project sponsor and Heritage.

Parcel 3 would contain a 448-foot (34-story) office highrise containing 515,000 gsf of office space and 5,000 gsf of retail space, compared to a 400 foot (33 story) structure with 471,000 gsf (including 22,000 gsf existing office space at 435 Sacramento Street) of office space and 4,000 gsf of retail for the project. Access to street-level loading and service facilities and below-grade parking facilities would be from Sacramento Street. As with the proposed project, new construction would occur on the site of the 241 Battery Street building (Parcel 3), which would be demolished, and would be built over a portion of the 435 Sacramento Street building.

This alternative would contain about 645,000 gsf (623,000 new net gsf) of office space, 347,000 gsf of hotel space and 45,000 gsf of retail space compared with 611,000 gsf (589,000 net new gsf) of office space, 254,000 gsf of hotel space, 24,315 gsf of retail space, and 35,185 gsf of restaurant space for the project. As with the proposed project, this alternative would provide 42 parking spaces and 10 loading spaces (42 parking spaces and five loading spaces on Parcel 1 and five loading spaces on Parcel 2.)

2. Environmental Impacts

Visual impacts would differ from the proposed project in that this alternative would not include a pedestrian walkway across Commercial Street, closure of Commercial Street, or incorporate pedestrian bridges. The design relationship of this alternative to the existing Embarcadero Center with the latter's system of pedestrian bridges, walkways and open spaces would not be as close as that of the proposed project. The 90-foot greater height on Parcel 1 and 48-foot greater height on Parcel 3 would increase the visibility of this alternative from both distant and close viewpoints. Three entrances to individual below-grade parking and loading facilities would create more curb cuts and more potential for pedestrian conflicts than the single-entrance design of the proposed project. There would be no pedestrian circulation between the second level of the three structures as there would be no pedestrian bridges connecting the structures at that level.

The 6% greater net new office space, 37% greater hotel space, and 85% less retail space compared with the project would generate about 8% more daily person trips and about 10% more peak-hour trips than the proposed project. Transit and pedestrian load factors and levels of service would also be greater in proportion to the increase in daily person trips. Vehicle access and possible vehicle conflicts would increase due to motorists entering three individual parking and/or loading facilities and associated entrances. The Downtown Plan identifies that portion of Commercial Street within the project boundaries as a lunchtime mall for exclusive pedestrian use between 11 a.m. and 2 p.m. on weekdays. Excluding vehicles during this period would alter vehicular access to the site, and could increase the potential for vehicle conflicts in adjacent streets. Cumulative air quality impacts would increase but would not be of measurable magnitude. Demand for public services and energy consumption would be expected to be similar to that of the proposed project.

According to the City Planning Commission's Office Housing Production Program (OHPP) formula, the housing demand generated by this alternative would be 554 units compared with 524 for the project. Subtracting formerly occupied office space from the formula, this alternative would generate a demand for 382 units.[1] As with the proposed project, this alternative could receive 202 OHPP housing credits for Section 8 elderly housing (see Section V, Mitigation Measures, page 190). The sponsor would satisfy the remaining 228 housing units requirement in accordance with OHPP guidelines.

Sun-shading impacts would increase on Maritime Plaza and Embarcadero Center One in proportion to the 90-foot greater height on Parcel 1. The 45-foot taller building on Parcel 3 would proportionally increase shadows on adjacent areas. Wind impacts would be expected to be greater than the project.

3. Reasons for Rejection

This alternative was rejected by the project sponsor because it would not provide for a single integrated, below-grade parking and loading facility and, in the sponsor's opinion, would result in inefficient vehicle circulation and a design that would impose constraints resulting in a less pleasing development than the proposed project. The sponsor also believes that a lack of pedestrian bridges connecting the three parcel sites and the existing Embarcadero Center would reduce the marketing potential of this alternative's second and third floor retail space. In addition, this alternative would violate the agreement made between the project sponsor and the Foundation for San Francisco's Architectural Heritage for the rehabilitation of the Federal Reserve Bank.

C. ALTERNATIVE THREE: DOWNTOWN PLAN

See Section IV.A., Land Use and Zoning Impacts, pages 75 - 77 description of the major features of the Downtown Plan related to the project site. This alternative would conform to the Downtown Plan, including amendments.

1. Description

Under the Downtown Plan, buildings in the C-3-0 district may have a maximum FAR of 10:1; thus, the allowable gross floor area for the site is 711,440 square feet, compared with 924,500 gsf for the project.

The Plan, as amended, includes a maximum height of 250 feet for Parcel 1, 75 feet for Parcel 2 and 400 feet for Parcel 3. In addition, the Plan designates new bulk controls for all three parcels that would apply to four components of a structure: base, lower tower, upper tower and upper tower extension. The controls require a volume reduction that would decrease the bulk of a building as the building increases in height. As a further urban design control, buildings must be massed to create distinctive building tops and setbacks above a building base, to maintain the continuity of the predominant streetwalls.

An alternative conforming with controls in the Downtown Plan would include office highrises on Parcels 1 and 3, and adaptive reuse of the Federal Reserve Bank (see Figure 42, page 210). This alternative would include 667,000 gsf (645,000 net new gsf) of office space, 73,650 gsf of retail space, and 63,000 gsf of below-grade parking and loading facilities compared to 611,000 gsf (589,000 net new gsf) of office space and 24,315 gsf of retail space for the project; below-grade parking and loading facilities would be the same. This alternative would not include hotel or restaurant space.

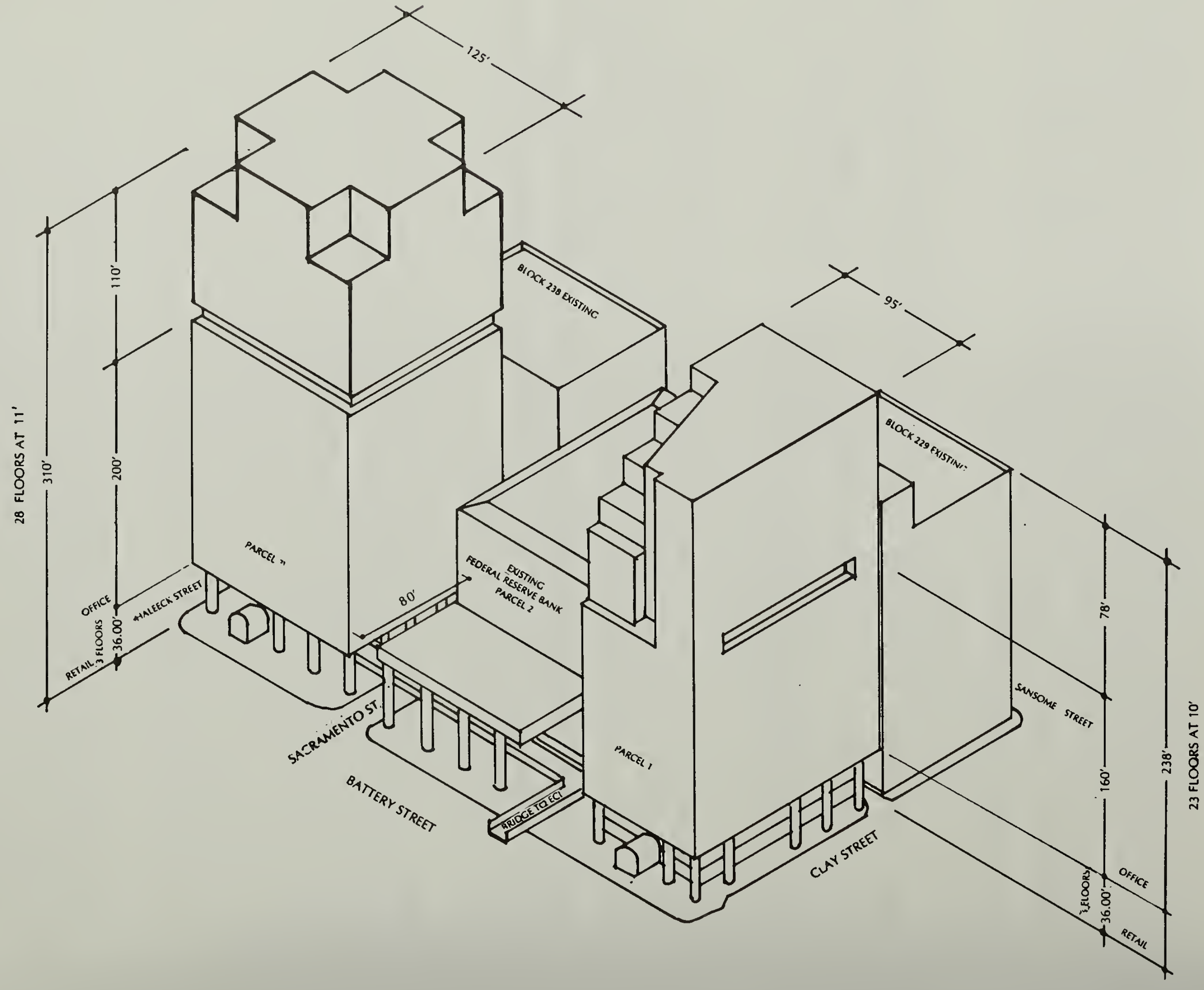
This alternative would include the maximum base floor area allowed under the height and bulk provisions of the Downtown Plan. Deleting the 29,200 gsf of ground floor retail from the FAR calculation as permitted under the Downtown Plan, total floor area for this alternative would be 711,450 gsf; an FAR of 10.0:1. See Table 4, page 71 for a comparison of this alternative and the project.

The structure on Parcel 1 would rise 238 feet (23 stories) above grade, compared to 250 feet (24 stories) for the project, and would contain 195,000 gsf of office space and 30,000 gsf of retail space. As with the proposed project, the first three levels of the structure would include retail and public open space; the remaining levels would contain office space, instead of the hotel proposed with the project.

Development on Parcel 2 would be similar to the proposed project. A two-level portico/addition with retail and public open space would replace the loading structure on the Battery Street (east) side of the building. The rehabilitated bank and the new structure would contain approximately 130,000 gsf of office space and 35,000 gsf of retail space, compared with 140,000 gsf of office space, 17,815 gsf of retail space, and 32,685 gsf of restaurant space with the project.

ALTERNATIVE 3: THE PROPOSED DOWNTOWN PLAN

FIGURE 42



The building on Parcel 3 would rise 310 feet (28 stories) above grade and contain 342,000 gsf of office space and 8,650 gsf of retail space, compared to the 400 feet (33 stories) project building containing 471,000 gsf of office space, 4,000 gsf of retail space, and 2,500 gsf of restaurant space with the project. As with the proposed project, retail and open space would be provided on the first two levels with office space above. New construction would occur on the site of the 241 Battery Street building after demolition of that building and would be built over a portion of 435 Sacramento Street building, which would remain.

As with the project, parking and/or loading facilities would be located below grade with a single, Clay Street access. A total of 42 parking spaces and ten loading docks would be provided, the same as the project would provide.

This alternative would require authorization for construction of pedestrian bridges over Sacramento, Commercial and Battery Streets; closure of Commercial Street; construction of a loading and service area beneath the Commercial Street pedestrian walkway; and construction of a loading access tunnel to Parcel 3 under Sacramento Street, as would the project.

Under the Downtown Plan, projects in the C-3-0 district are required to provide one square foot of usable open space for each 50 square feet of building area. Not including circulation space on the pedestrian bridges, this alternative would provide 19,000 gsf, in excess of the Plan requirement of 14,813 square feet for this alternative. The project would provide 19,000 gsf of publicly-accessible open space also, in excess of the Plan requirements (see Table 4, page 71).

The calculated gross floor area for this alternative would be approximately 711,450 gsf, about 213,050 gsf less than for the proposed project. The Downtown Plan excludes retail and other uses on the ground floor in a C-3-0 district from calculations of allowable gross floor area.[2] Thus, the total floor area noted above for this alternative excludes the 29,200 gsf of ground floor retail space. If calculated according to the Downtown Plan, excluding certain ground floor uses, the project would have an FAR of 12.5:1, compared to the 10:1 FAR of this alternative.

2. Environmental Impacts

Visual impacts would differ slightly from the proposed project, in that the setbacks and lower building heights on Parcels 1 and 3 would obstruct views less than the project from upper levels of nearby highrises. Shadows would be proportionally less than those cast by the project.

The buildings would be designed such that wind speeds due to the alternative would not exceed wind standards established in the Downtown Plan (7 mph for sitting areas, 11 mph for pedestrian areas).[3]

The Downtown Plan requires protection and enhancement of street scale by providing distinctive building bases that relate to the height of existing streetwalls. Both the proposed project and the Downtown Plan alternative for Parcel 1 would provide a building base that would visually relate to the streetwall height of the Alcoa Building (and Maritime Plaza) and the existing Embarcadero Center. As with the project, the base of the proposed building on Parcel 3 would relate to the streetwall height of Battery Street; the structure's base would also relate to the streetwall height on Sacramento Street, although less so given that street's width. The base of the structures on Parcels 1 and 3 in this alternative would relate to the existing low-rise structures, particularly those fronting Battery Street north and south of the site and on Sansome Street west of the site (see Figure 11, page 36).

The 10% greater amount of net new office, 203% greater amount of retail space and elimination of all hotel and restaurant space would generate about 16% less daily person trips and 6% less peak-hour trips than the project. Transit and pedestrian load factors and levels of service would also decrease proportionally. Employment-related impacts of this alternative would be greater than those of the proposed project due to the increase in office and retail uses. Energy consumption and public service demands would be expected to be less than the proposed project since total gross floor area would be less and no hotel space would be included in this alternative.

The Downtown Plan incorporates the OHPP formula for calculating housing requirements based upon the amount of net new office space. According to OHPP the housing demand generated for this alternative would be 573 housing units[4]. Subtracting formerly occupied office space from the formula, this alternative would generate a demand for 402 units.[4] As with the proposed project, this alternative could receive 202 OHPP housing credits for Section 8 elderly housing. The sponsor would satisfy the remaining 200 housing unit requirement, in accordance with OHPP guidelines.

3. Reasons for Rejection

The sponsor has rejected this alternative because development costs would rise considerably in order to conform to Downtown Plan requirements, precluding, in the sponsor's opinion, development of a hotel on Parcel 1. As stated in Section II.A., page 12, one of the objective's of the sponsor is to provide a hotel that would accommodate business clients in the Financial District, promote activities during the evenings and weekends when the area is traditionally less utilized, and stimulate use of retail space and restaurants in the surrounding area by introducing a new use that would promote tourist activity. In addition, housing demand generated by this alternative would be greater than with the project.

D. ALTERNATIVE FOUR: NO PARKING

1. Description

The project site is within the C-3-0 district, in which no off-street parking is required. In addition, the site is in an area designated in the Transportation Element of the Comprehensive Plan as the Downtown Core Automobile Control Area where "a continuing effort should be made to reduce the impact of the private commuter vehicle and parking is actively discouraged." The proposed project would include 42 parking spaces; under this alternative, there would be no on-site parking. In all other respects this alternative would be the same as the proposed project.

2. Impacts

Geologic impacts would be expected to be less than for the project, as the depth of excavation for Parcels 1 and 3 would be less. Construction noise impacts associated with foundation excavation would be less.

Although difficult to quantify, transit demand would be expected to increase with no on-site parking. The project's contribution to cumulative air quality impacts in the immediate vicinity would be reduced. Other environmental effects of this alternative would be the same as for the proposed project.

3. Reasons for Rejection

The project sponsor has rejected this alternative because it would not provide the amount of accessory parking allowable under by Section 204.5(c) of the Planning Code. In addition, the sponsor believes some tenants of the project, particularly with office and hotel uses, would desire on-site parking, and that marketability of project space would, therefore, be affected if no parking were available.

E. ALTERNATIVE FIVE: FULL USE OF 435 SACRAMENTO STREET

1. Description

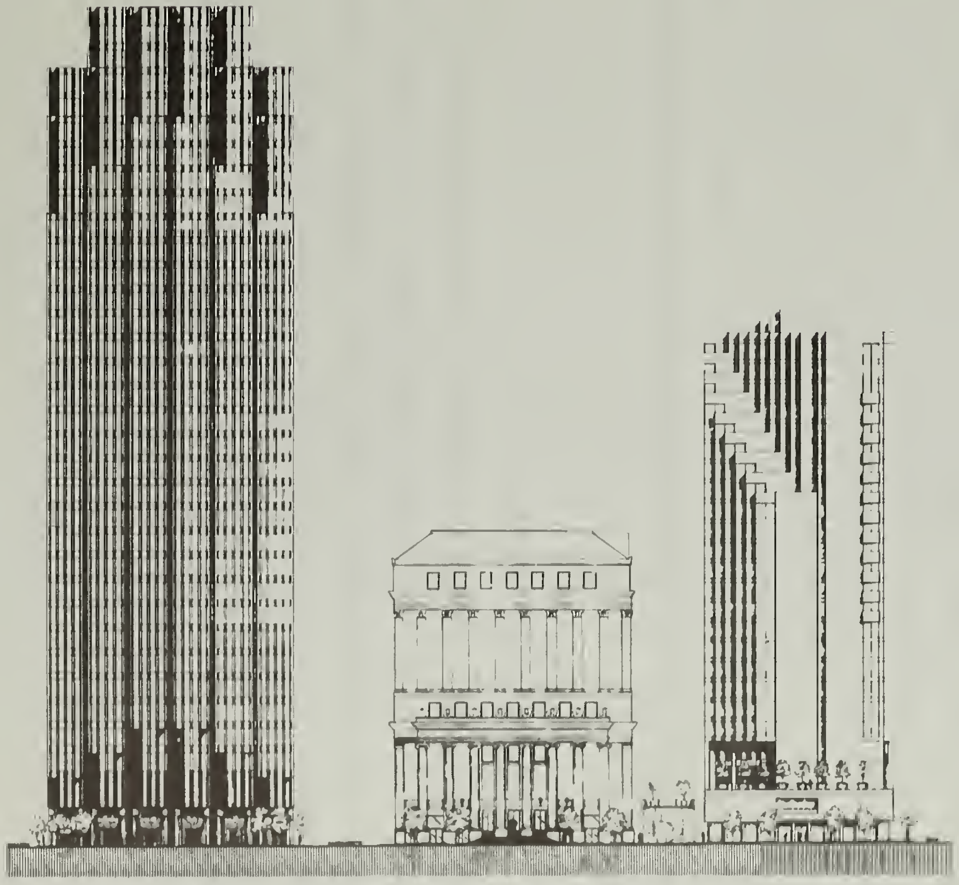
This alternative would involve the same development on Parcels 1 and 2, and different design of the lower floors and below-grade levels of the office tower on Parcel 3 compared to the project. The alternative would use the entire site at 435 Sacramento Street, compared to use of only the two floors of office space above the parking garage in the project. There would be no pedestrian bridge across Sacramento Street. The pedestrian bridges across Battery and Commercial Streets would be constructed, as with the project, the bridge across Commercial Street would terminate at the southern edge of the proposed portico/addition to the Federal Reserve Bank on Parcel 2 (see Figure 43, page 215).

The hotel in Parcel 1 would be 254,000 gsf, the same as the project, and would include 330 rooms, the same as the project. Building height would be 250 feet, the same as the project.

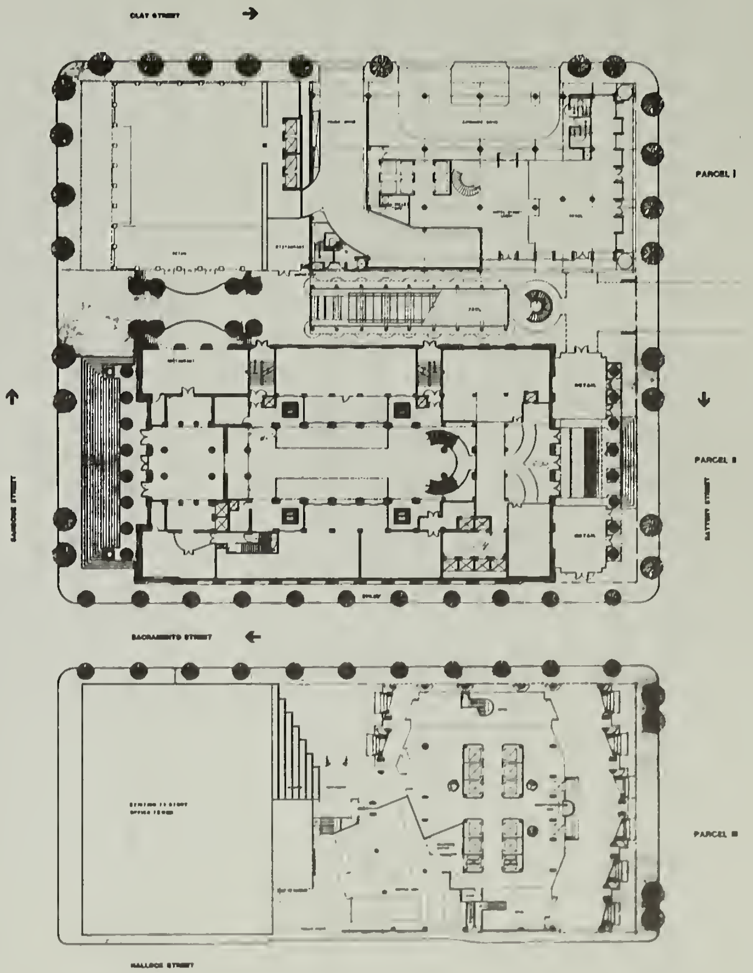
The interior of the Federal Reserve Bank building on Parcel 2 would include about 17,815 gsf of retail space, about 140,000 gsf of office space, and about 32,685 gsf of restaurant space, as for the project.

ALTERNATIVE FIVE: NO BRIDGE OVER SACRAMENTO STREET

FIGURE 43



BATTERY STREET ELEVATION



GROUND FLOOR PLAN

The office tower on Parcel 3 would be 400 feet (33 stories) in height (the same as the project), and would include 150 parking spaces in three levels below-grade totalling about 48,000 square feet, or about 16,000 square feet per level. Access to the parking facility would be from Halleck Street. Five full-size loading spaces would be provided at street level, with access from Halleck Street. No tunnel below Sacramento Street would be included. Open space features and pedestrian and building circulation space would total 6,520 gsf. A mechanical floor at the mezzanine would be included in this alternative. Office space would be about 471,000 gsf, including the new tower and retained space at 435 Sacramento Street.

The design of street-level uses on Parcel 3 would be contingent upon use of the entire site at 435 Sacramento Street. The existing three levels of parking would be demolished (33,000 gsf), to be replaced by the new parking levels described above (48,000 gsf). All of the new parking spaces would be for the use of the owner of the existing on-site garage in substitution for the loss of that garage. The new parking facility would be operated solely for the owner of the 435 Sacramento Street parking garage.

This alternative would contain approximately 924,500 gsf (the same as the project), including 611,000 gsf of office space 24,315 gsf of retail space, 254,000 gsf of hotel space and 35,185 gsf of restaurant space, the same as the project. Open space would be about 19,000 gsf, the same as the project. This alternative would also include 10 loading spaces (the same as the project), and 150 parking spaces (108 more than the project). Calculated FAR for this alternative would be 13.0:1, the same as the project. Excluding ground floor uses pursuant to Downtown Plan guidelines results in a calculated FAR of 12.5:1, the same as the project.

2. Environmental Impacts

Visual impacts would differ from the project in that this alternative would not include a pedestrian bridge across Sacramento Street, which would eliminate view obstruction associated with the bridge. The design relationship of this alternative and the existing Embarcadero Center, with its system of pedestrian bridges, walkways and open spaces, would not be as close as that of the project due to elimination of a bridge. The Halleck Street access to both parking and loading facilities would create curb cuts and more potential for pedestrian and vehicle conflicts than the single entrance of the project (on

Parcel 1). There would be no pedestrian circulation between the second level of Parcels 2 and 3, as there would be no pedestrian bridge connecting the structures at that level.

This alternative would generate about the same amount of daily person trips and peak-hour trips as the project. Transit and pedestrian load factors and levels of service would also be the same as the project. Vehicle access and potential for conflicts would increase due to motorists accessing two separate parking and loading facilities and associated entrances. Cumulative air quality impacts would be similar to the project. Demand for public services and energy consumption would be expected to be the same as that of the project.

According to the City Planning Commission's Office Housing Production Program (OHPP) formula, the housing demand generated by this alternative would be 524 units, the same as the project.[5] Subtracting formerly occupied office space from the formula, this alternative would generate a demand for 352 units, the same as the project.[5] As with the project, the alternative would receive 202 OHPP housing credits for Section 8 elderly housing (see Secton V, Mitigation Measures, page 196). The sponsor would satisfy the remaining 150 housing unit requirement off-site, in accordance with OHPP guidelines.

Sun-shading impacts would be similar to the project on Maritime Plaza and Embarcadero Center One. Wind impacts would also be similar to those of the project.

3. Reasons for Rejection

In the sponsor's view, this alternative would not provide for physical integration of the entire project with the existing Embarcadero Center development because of the lack of the pedestrian bridge across Sacramento Street. Also, in the project sponsor's opinion, the lack of a bridge would result in a reduction of this alternative's marketing potential. In addition, at present, the project sponsor lacks the necessary property rights in the three parking levels at 435 Sacramento Street to build this alternative. The sponsor would consider this alternative should the necessary property rights be obtained.

---

[1] $$\frac{\text{Total net new office space}}{250} \times 40\% \div 1.8 = \text{Number of housing units}$$

San Francisco Department of City Planning, Revised Guidelines for Administering the Housing Requirements Place on Office Development under OHPP, January 1982, page 5.

The OHPP allows discounting of formerly occupied office space that will be redeveloped or replaced with office, retail, or related uses. Therefore, the 193,000 gsf of former office space in the project would be redeveloped as office, retail, and other uses, and can be discounted from the net new office space figure used in the OHPP formula. Net new office space for Alternative 2 would thus total 430,000 gsf for the purpose of the OHPP requirement.

[2] San Francisco Department of City Planning, The Downtown Plan, Proposal for Citizen Review, August 1983, page 29, revised November 1983, amended June, October and November, 1984. In addition to retail uses, the following functions and facilities can be excluded from FAR calculations: personal service uses; building circulation; open space features; pedestrian circulation; cultural, recreational, religious, social service and educational facilities available to the general public; and building service. Up to 75% of the ground floor area of these uses and facilities and ground level open space can be excluded from FAR calculations.

[3] Don Ballanti, Certified Consulting Meteorologist, oral communication, June 22, 1984.

[4] Net new office space for Alternative 3 would be 452,000 gsf for the purposes of the OHPP formula.

[5] New new office space for Alternative 5 would be 396,000 gsf for the purposes of the OHPP formula (see footnote 1, above).

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APPENDIX A

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NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

Date of this Notice: September 2, 1983

Lead Agency: City and County of San Francisco, Department of City Planning
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Project Title: 83.222 EC: Embarcadero Center West

Project Sponsor: One,Two,Three Embarcadero Center West

Project Contact Person: SUSAN TAYMOR-LURIA

Project Address: West side of Battery Street between Clay & Halleck extending to Sansome Street

Assessor's Block(s) and Lot(s): A/B 229, Lots 3 & 20; A/B 238, Lots 1 & 7

City and County: San Francisco

Project Description: Mixed-use development totalling about 1,413,000 gsf; 827,300 gsf Office; 52,400 gsf Retail: 261,900 gsf Hotel; 37,300 gsf Open Space; 165,000 gsf Parking and eight loading spaces. Retention of Federal Reserve Bank & 435 Sacramento (23,100 gsf Office space) & demolition of 241 Battery Street requiring Conditional Use, encroachment and building permits.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15081 (Determining Significant Effect), 15082 (Mandatory Findings of Significance) and 15084 (Decision to Prepare an EIR), and the following reasons, as documented in the Initial Evaluation (initial study) for the project, which is on file at the Department of City Planning:

Please see attached Initial Study

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: September 12, 1983.

An appeal requires 1) a letter specifying the grounds for the appeal, and 2) a $35.00 filing fee.

Alec S. Bash

Alec S. Bash, Environmental Review Officer

ERS 6/80

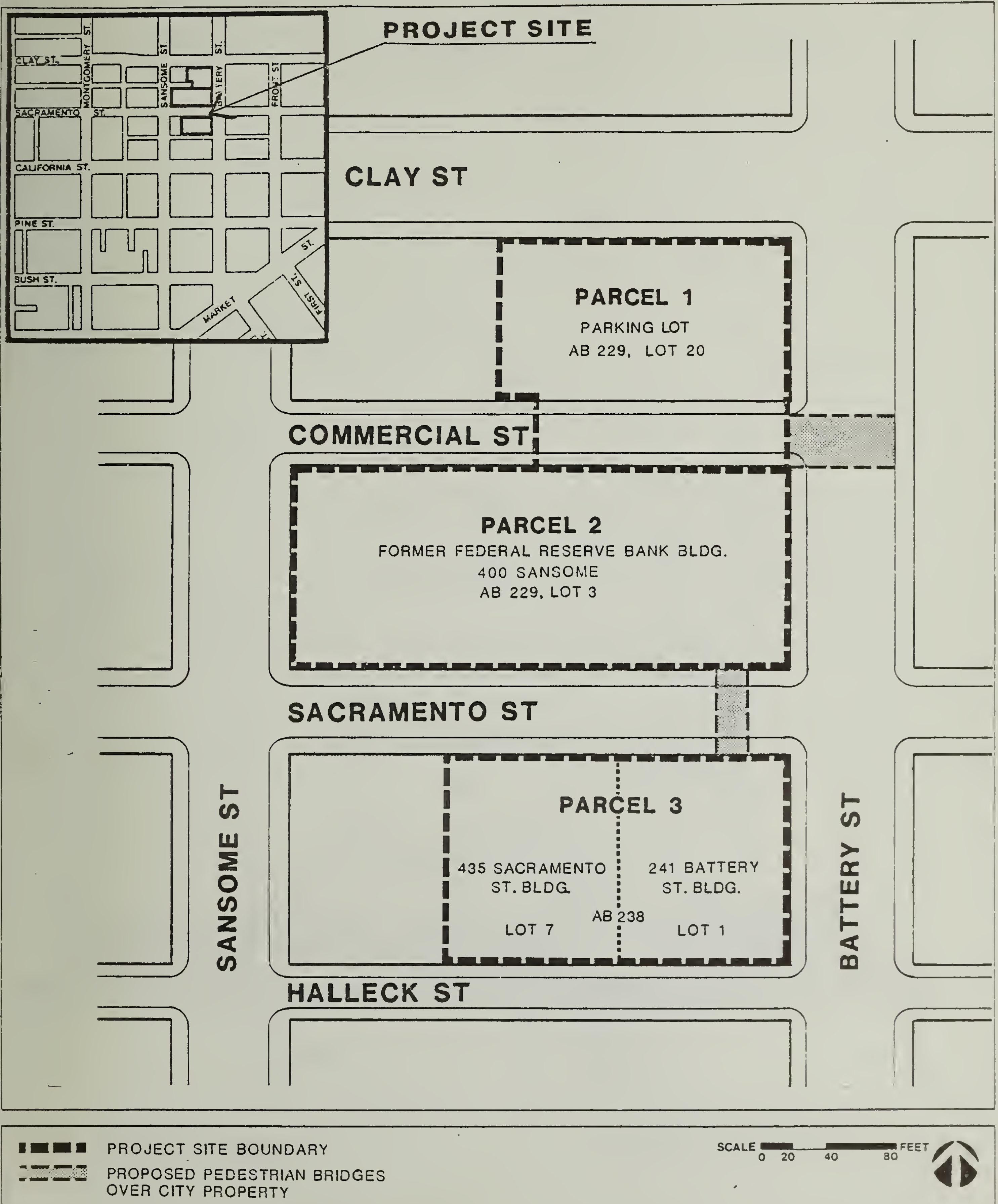
FINAL INITIAL STUDY
EMBARCADERO CENTER WEST
83.222EC
September 2, 1983

I. PROJECT DESCRIPTION

The Embarcadero Center West project site is bounded by Battery, Sansome, Clay and Halleck Streets (see Figure 1, page 2). The site includes three parcels: Parcel 1 - Assessor's Block (AB) 229, Lot 20; Parcel 2 - AB 229, Lot 3; and Parcel 3 - AB 238, Lots 1 and 7. In addition, the project sponsor proposes to obtain from the City authorization for the closure and use of a portion of the right-of-way of Commercial Street between Sansome and Battery Streets, and to obtain authorization to construct pedestrian bridges over Battery and Sacramento Streets and parking and loading tunnels under Commercial and Sacramento Streets. The size of the site, including the portion of Commercial Street proposed to be used, is approximately 75,900 square feet. The project site is in the C-3-0 (Downtown Office) district, the City's central business district.

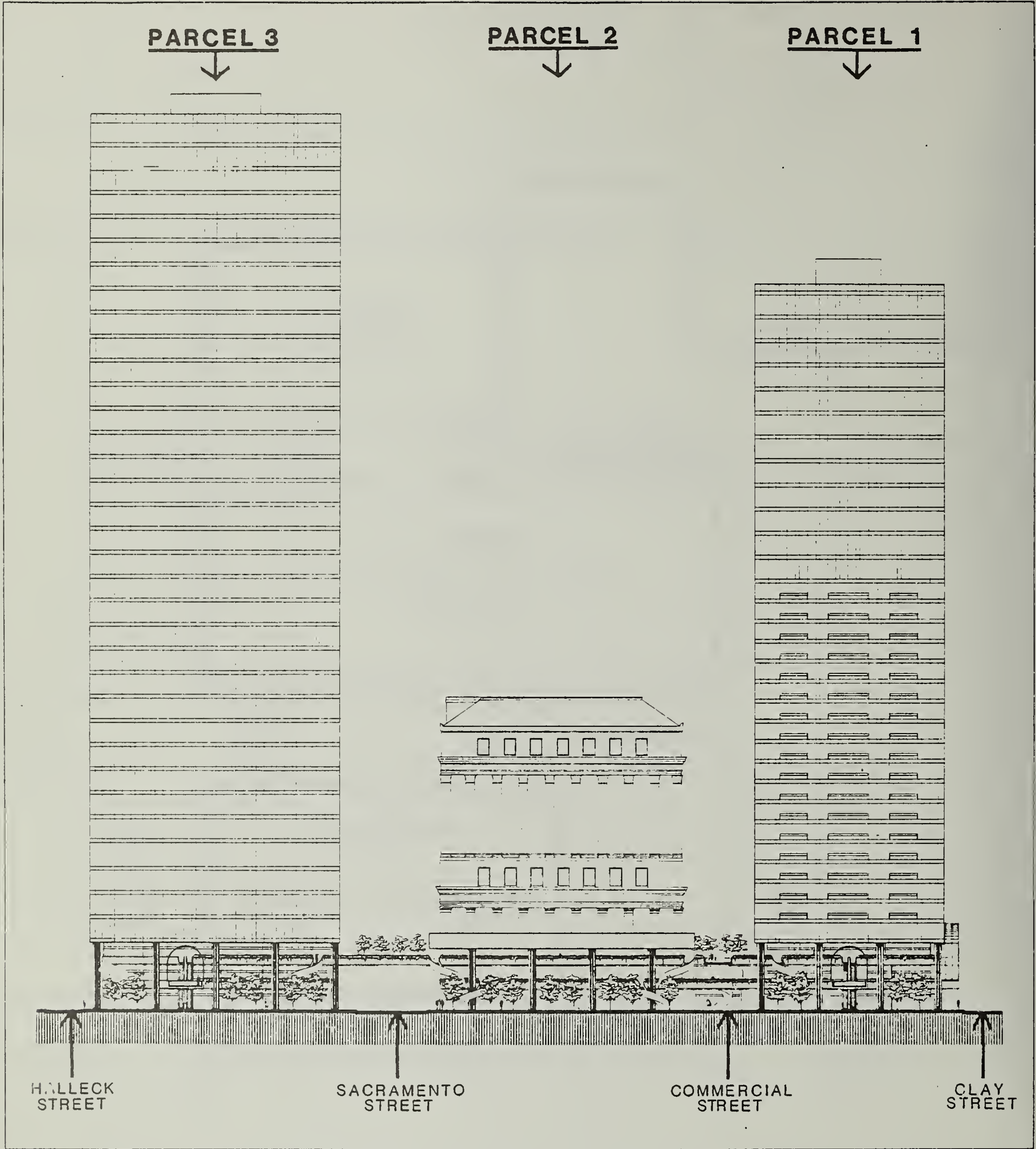
Parcel 1 currently contains a 75-space surface parking lot, and Parcel 2 contains the vacant Federal Reserve Bank building (400 Sansome Street). Parcel 3 contains two buildings: a vacant office/warehouse structure (241 Battery) and an occupied mixed-use building (435 Sacramento) with two levels of office space and four levels (150 spaces) of parking (two below-grade). The proposed project would include adaptive reuse of the Federal Reserve Bank building and removal of the parking lot and the 241 Battery building: the building at 435 Sacramento would remain. The Federal Reserve Bank building and 241 Battery building are included in a list of architecturally and/or historically significant buildings adopted by City Planning Commission Resolution No. 8600 The Federal Reserve Bank building is a City landmark eligible for listing on the National Register of Historic Places; 241 Battery was determined ineligible for listing.

The project sponsor -- One, Two, Three Embarcadero Center West -- proposes a mixed-use office, hotel and retail development which would link the existing Federal Reserve Bank building with two new structures to the north and south of the existing bank building via proposed pedestrian bridges and walkways (see Figures 2 through 4, pages 3 through 5).



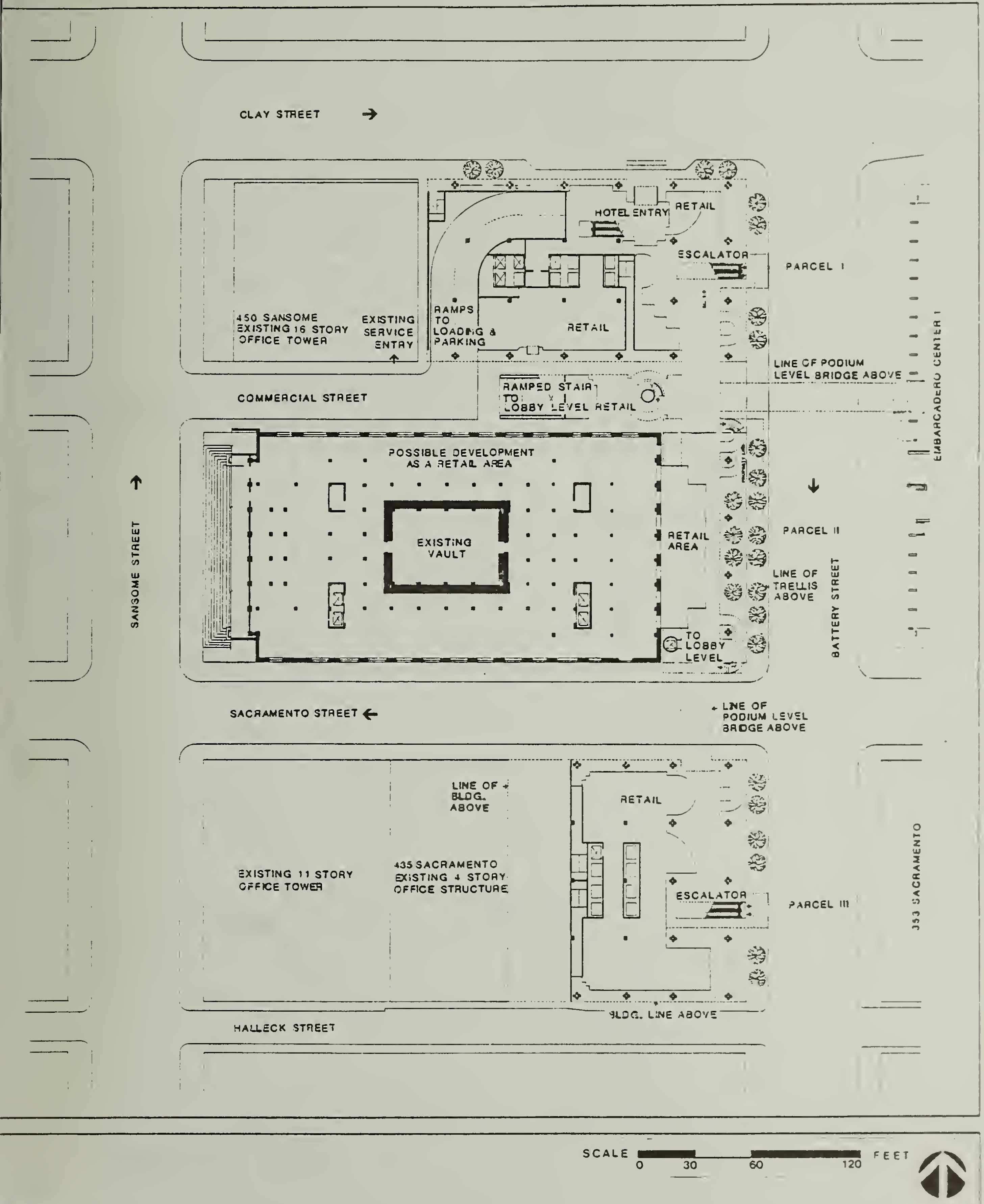
SOURCE: EIP

SITE LOCATION MAP **1**



SOURCE: JOHN PORTMAN AND ASSOCIATES

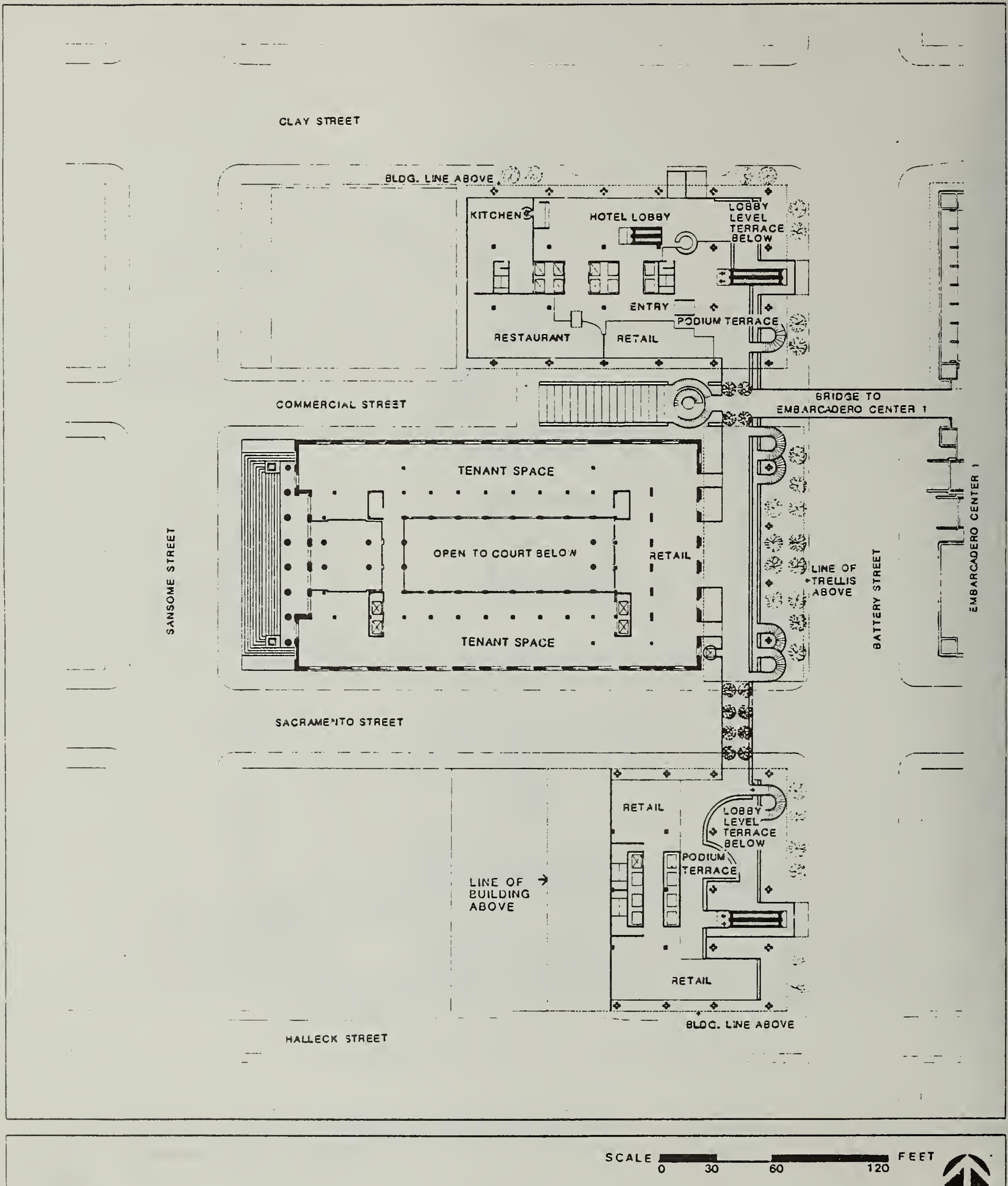
BATTERY STREET ELEVATION 2



SOURCE: JOHN PORTMAN AND ASSOCIATES

STREET LEVEL PLAN

3



SOURCE: JOHN PORTMAN AND ASSOCIATES

PODIUM LEVEL FLOOR PLAN **4**

Embarcadero Center West would also link with the podium retail level of the existing Embarcadero Center One building by a proposed pedestrian bridge over Battery Street. The total project, including office, hotel, retail, mechanical, service, parking space and public open space, would comprise approximately 1,418,000 gross square feet (not including 435 Sacramento). Of the gross square footage, about 827,800 gross square feet (gsf) of office space, 52,400 gsf of retail space, 261,900 gsf of hotel space, 37,500 gsf of publicly accessible open space, 165,000 gsf of below-grade parking and loading facilities, and 73,400 gsf of mechanical/service space would be provided. A total of 205 parking spaces and eight loading spaces are proposed. The proposed development would include 221,800 gsf in the existing Federal Reserve Bank building and 1,196,200 gsf of net new construction.

Parcel 1 would contain a mixed-use structure of approximately 589,300 gsf including 261,900 gsf of hotel space, 187,700 gsf of office space, 9,800 gsf of retail space, 97,500 gsf of below-grade parking and loading space and 17,000 gsf of publicly accessible open space. City- and hotel-oriented retail space and publicly accessible open space would be provided on the first three levels. A hotel with approximately 400 rooms would occupy levels 4 through 21 of the structure; levels 22 through 32 would contain office space. The building would rise 361 feet (32 stories) above grade and would have five below-grade levels for off-street loading and 120 parking spaces. At the street level, the enclosed portion of the structure would cover approximately 6,600 square feet of the 20,246-square-foot site of Parcel 1 (including the portion of Commercial Street proposed to be closed and incorporated into the project as a pedestrian ramp.

The former Federal Reserve Bank building, Parcel 2, would be refurbished for office and retail uses. A three-level podium structure with retail and publicly accessible open space would replace a motor/security platform on Battery Street side of the building; there would be access to the Federal Reserve building from Battery, as well as Sansome Street. The lobby level of the existing building and possibly one or more additional levels would be converted to retail use; the remaining above-grade floors would continue to be used as office space. The building would maintain its existing height of approximately 143 feet (8 stories) above grade. The bank building and the enclosed portion of the three-level podium addition would cover approximately 26,800 square feet of the 32,886-square-foot site of Parcel 2. The bank building and addition would contain approximately 232,400 gross square feet including 33,300 gsf of basement/vault space, 26,800 gsf of retail space, 146,400 gsf of office space, a 17,200 gsf attic and 8,700 gsf of publicly accessible open space on the three-level podium structure.

Parcel 3 would contain a new mixed-use structure of approximately 594,000 gsf including 493,700 gsf of office space, 15,800 gsf of retail space, 67,500 gsf of parking and loading space and 9,500 gsf of publicly accessible open space. Retail and publicly accessible open space would be provided on the first three levels; office space would occupy the remaining above-grade levels. The building would rise 444 feet (37 stories) above grade and would have six basement levels containing off-street loading and 85 parking spaces. New construction would occur on the site of the 241 Battery building; the four-story structure located on AB 238, Lot 7 (435 Sacramento Street) and containing approximately 23,100 gsf of existing office space would remain. The newly constructed structure on Lot 1 of Parcel 3 would cover a portion of the 435 Sacramento Street building (Lot 7) beginning at the sixth level. The enclosed portion of the newly constructed structure and the 435 Sacramento Street building would cover approximately 17,700 square feet of the 22,750-square-foot site of Parcel 3.

Subject to City approval, the easterly portion of Commercial Street between Sansome and Battery Streets would be closed to vehicular traffic and replaced with a pedestrian ramp that would provide access to the lobby and podium levels of the proposed development. Pedestrians would be able to circulate among the project structures via the three levels of retail and open space located along Battery Street and connected by the ramp at Commercial Street and a proposed bridge over Sacramento Street. A pedestrian bridge would be constructed over Battery Street to link the proposed Embarcadero Center West with the existing Embarcadero Center development at the axis of the former Commercial Street. Both bridges would contain 2,300 gross square feet of publicly accessible open space.

Subject to City approval, parking and loading facilities would be located below grade for all three parcels with access to the facilities from Commercial Street. The proposed tunnel under Commercial and Sacramento Streets would provide vehicular circulation. This underground tunnel system for parking and loading with access through Parcel 1 is subject to special City approvals and financial and physical feasibility. In the event the approvals were not obtained, access to off-street loading and parking would be provided at grade on Parcels 1 and 3. Not including the 150 spaces located in the existing 435

Sacramento building, the proposed project would provide 205 parking spaces; 120 spaces at Parcel 1 and 85 spaces at Parcel 3. Eight off-street loading spaces would be provided: two spaces for Parcel 1 and the one space for Parcel 2 would be located on Parcel 1; five spaces for Parcel 3 would be located on Parcel 3.

The project sponsor proposes to begin rehabilitation of the Federal Reserve Bank building and new construction on Parcels 1 and 3 simultaneously in July 1984 and to complete construction in approximately three years. The estimated construction cost of the project would be $150 million. The project architect is John Portman and Associates with offices in San Francisco; Kaplan, McLaughlin and Diaz are co-architects for the rehabilitation of the Federal Reserve Bank building.

II. SUMMARY OF POTENTIAL EFFECTS

A. SIGNIFICANT EFFECTS

The Embarcadero Center West project is examined in this Initial Study to identify its potential effects on the environment. The proposed project may generate environmental impacts that could be considered significant and these will be analyzed in the Environmental Impact Report (EIR) for the project. Potential environmental effects from the project itself or cumulatively with other similar projects in the vicinity include effects on population, employment and housing demand; transportation, including circulation, transit and parking; construction noise; wind and shadow effects; land use; urban design; architectural resources; impacts associated with excavation at the project site; cumulative impacts on air quality; and energy.

B. INSIGNIFICANT EFFECTS

The proposed project either would not have significant environmental impacts on the areas indicated below or the potential impacts would be mitigated through measures incorporated into the project. These potential environmental issues require no further study and will not be addressed in the EIR. They include:

1. Obtrusive Light or Glare

The project would use lighting designed to avoid glare and would not use reflective glass; therefore, it would not generate obtrusive light or glare affecting other properties.

2. Relocation

Construction of the project would require demolition of 241 Battery Street, vacated by the Federal Reserve Bank when it moved to its new Market Street headquarters. Therefore, the project would not displace any tenants or employees.

3. Operational Noise

After completion, project operation would not perceptibly increase noise levels in the project vicinity.

4. Project-Related Air Quality Impacts and Impacts From Odors/Burning of Materials

Construction and operation of the proposed project would not violate any ambient air quality standard, create objectionable odors or involve the burning of any materials.

5. Biology

The project site is covered by existing buildings and a parking lot. The proposed project would have no effect on plant or animal life on the project site or surrounding area.

6. Geology/Topography

The project would be constructed under supervision of California-licensed structural and geotechnical engineers and would comply with all applicable seismic and life safety standards.

7. Water

The site is currently covered with an impervious surface and contains no surface water. Alterations to drainage patterns would not occur due to construction of the proposed project and therefore, will not be discussed in the EIR.

8. Hazards

Impacts on the City's emergency response plan will not be discussed in the EIR because of mitigation measures that would be implemented by the project sponsor to insure coordination with the City's emergency planning activities. The proposed project would not create a potential fire or health hazard and therefore these issues will not be discussed in the EIR.

9. Utilities/Public Services

All utilities and public service could serve the project with existing capabilities.

10. Cultural Resources

No significant subsurface resources are expected to be encountered during construction. Mitigation measures would be incorporated into the project by the sponsor to protect any potential resources.

III. ENVIRONMENTAL EVALUATION CHECKLIST

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS.

Could the project:

	Yes	No	Discussed
1. Require a variance, special authorization, or change to the City Planning Code or Zoning Map?	X		X
*2. Conflict with the Comprehensive Plan of the City and County of San Francisco?	X		X
*3. Conflict with any other adopted environmental plans and goals of the City or Region?		X	X

Special authorization and approvals required by the project will be discussed in the EIR, including:

- Conditional Use authorization for bonus floor area and for parking in addition to that permitted as accessory parking under provisions of the Planning Code
- authorization for closure and use of a portion of Commercial Street as a pedestrian ramp
- authorization for use of publicly owned subsurface space for a vehicular tunnel under Commercial and Sacramento Streets
- authorization for use of publicly owned air space for pedestrian bridges over Battery and Sacramento Streets

In addition, the project would require Discretionary Review; this would be incorporated into the Conditional Use process. Although it does not appear that the project would conflict with the City's Comprehensive Plan, conformity of the project with the Plan will be discussed in the EIR. The project's relationship to the Urban Design element of the Comprehensive Plan will be discussed in the EIR. The project would not conflict with other adopted environmental plans and goals; however, issues related to compatibility with zoning and plans will be discussed in the EIR.

B. ENVIRONMENTAL IMPACTS

	Yes	No	Discussed
1. Land Use. Could the project:			
*a. Disrupt or divide the physical arrangement of an established community?		X	X

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*Derived from State Environmental Guidelines, Appendix G, normally significant impacts.

	Yes	No	Discussed
1. Land Use (cont.)			
b. Have any substantial impact upon the existing character of the vicinity?	X		X

Except for 435 Sacramento, the project site is vacant. Embarcadero Center West would be an interrelated mixed-use development linked by a system of bridges and walkways. Pedestrians would circulate among the three project structures via a common podium level that would bridge Commercial Street and a pedestrian bridge over Sacramento Street. In addition, a pedestrian bridge over Battery Street would link the proposed project with the existing Embarcadero Center development at the retail level of Embarcadero Center One. The Embarcadero Center, located directly east of the project site, consists of four office buildings and a hotel which are connected by a system of pedestrian bridges and walkways. The Embarcadero Center West project proposes to continue this pedestrian circulation system, however, no such system currently exists on the project site. The effect of the proposed pedestrian bridges on the existing character of the neighborhood will be analyzed in the EIR. The existing land use and the effect the proposed project may have on it will also be discussed in the EIR.

	Yes	No	Discussed
2. Visual Quality. Could the project:			
*a. Have a substantial, demonstrable negative, aesthetic effect?	X		X
b. Substantial degrade or obstruct any scenic view or vista now observed from public areas?	X		X
c. Generate obtrusive light or glare substantially impacting other properties?		X	X

The view down Commercial Street west of the project site from higher elevations is terminated by the 27-foot podium of the existing Embarcadero One structure. Thus, the proposed ramp and podium across Commercial Street would probably not adversely affect the existing view. Views looking west on Sacramento and north and south on Battery Street are of the streetscape. Views looking east on Sacramento terminate at the lower level of the Embarcadero Freeway; the tower of the Ferry Building is visible above the freeway. These issues will be addressed in the EIR. The visual impact on the cityscape, and the urban design impact of the project will also be addressed in the EIR.

The project would use lighting designed to avoid glare and would not use reflective glass; therefore, it would not generate light or glare affecting other properties. This issue requires no further analysis in the EIR.

3. Population. Could the project:

	Yes	No	Discussed
*a. Induce substantial growth or concentration of population?	X		X
*b. Displace a large number of people (involving either housing or employment)?		X	X
c. Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?	X		X

Construction of the proposed project would include demolition of a vacant warehouse and adaptive reuse of the old Federal Reserve Bank building. Both structures were vacated by the Federal Reserve Bank when it moved to its new Market Street headquarters. Therefore, displacement would not occur. This issue requires no further analysis and will not be further addressed in the EIR.

Housing demand, employment and growth inducement due to the project will be analyzed in the EIR. The project would not involve demolition or conversion of existing housing and therefore would not reduce the housing supply. This issue will not be further addressed in the EIR.

4. Transportation/Circulation. Could the project:

	Yes	No	Discussed
*a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	X		X
b. Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	X		X
c. Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	X		X

	Yes	No	Discussed
4. Transportation/Circulation. (cont.)			
d. Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	X		X

It is not anticipated that the project would substantially interfere with existing transportation systems; however, project and cumulative impacts on traffic and pedestrian circulation, as well as impacts on transit use, underground parking and loading with access under street right-of-ways and the effect of vacating a portion of Commercial Street will be addressed in the EIR.

	Yes	No	Discussed
5. Noise. Could the project:			
*a. Increase substantially the ambient noise levels for adjoining areas?		X	X
b. Violate Title 25 Noise Insulation Standards, if applicable?		X	X
c. Be substantially impacted by existing noise levels?		X	X

The sound levels near the site are typical of those found in downtown San Francisco and are dominated by vehicular traffic. Based upon 24-hour measurements made on Battery Street and elsewhere around the project site, the day/night average noise level (L_{dn})[1] on the project site ranges from about 66 dBA[2] for a portion of the site facing Commercial Street to a maximum of 73 dBA for the buildings fronting on Battery and Sansome Streets. A copy of the noise measurements survey is available for review at the Department of City Planning Office of Environmental Review located at 450 McAllister Street, San Francisco.

The California Administrative Code, Title 25 Noise Insulation Standards apply to all new residential structures, including hotels. The acceptable outdoor noise levels for residential units (hotels are considered residential) was established as a community noise equivalent level (CNEL), equal to 60 dBA. The exterior noise environment of the site exceeds 60 dBA at street level, so the project would require an acoustical analysis to show that the interior hotel CNEL requirement of less than 45 dBA with the windows closed would be met.

The Environmental Protection Element of the San Francisco Comprehensive Plan contains noise guidelines for determining the compatibility of land uses with various noise environments. For hotel and office uses, the guidelines recommend no special noise control measures in an exterior noise environment of up to a noise level (L_{dn}) of 60 dBA and 70 dBA, respectively. The existing noise levels do not exceed the recommended guideline level for an office building. The project sponsor would construct the project to conform with Title 25 noise insulation standards for hotel units; therefore, ambient noise levels would have no significant effect on the project.

After project completion, project operation would not perceptibly increase noise levels in the project vicinity. Operational noise would be regulated by, and the project would comply with, the San Francisco Noise Ordinance (Part II, Chapter VII, San Francisco Municipal Code). The project would include noise insulation measures contained in the Noise Guidelines of the San Francisco Comprehensive Plan.

Project mechanical equipment noise would be regulated by the San Francisco Noise Ordinance, Section 2909, "Fixed Source Noise Level." In the C-3-0 Use District, the ordinance limits equipment noise levels to 70 dBA between 7 a.m. and 10 p.m. and 60 dBA between the hours of 10 p.m. and 7 a.m. at the receiver's property line. During lulls in traffic, mechanical equipment generating 70 dBA could dominate the site noise environment. As equipment noise levels would be limited to 60 dBA to meet the nightime limit, they would not be perceptible within the sound-level context of the project. Discussion of operational noise will not be included in the EIR.

Project construction would occur over a 36-month period and would involve demolition of one building, a motor security platform and a parking lot, some excavation and erection of the project. These activities would temporarily cause noise levels to exceed those existing in the site vicinity. The project contractor would comply with all requirements of the San Francisco Noise Ordinance, including limiting noise emissions from powered construction equipment to 80 dBA at a distance of 100 ft. The project contractor would muffle and shield intakes and exhausts, shroud or shield impact tools, annd use electric-powered rather than diesel-powered construction equipment, as feasible. Adherence to this limit would ensure that all equipment would cause noise levels at the nearest building to be no greater than present maximum noise levels due to traffic and other mechanical equipment. Impact tools typically do not comply with provisions of Section 2907 of the Noise Ordinance. If it is necessary to use these tools for pile driving, a limitation on the hours of use may be required under the ordinance. Further consideration will be given to this issue in the EIR, including construction noise effects on workers and residents in the site vicinity.

Trucking of construction material to and from the site would not cause a noticeable increase in average noise levels along haul routes because of existing traffic noise levels of about 75 dBA on the street. These noise effects will not be discussed in the EIR.

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[1] L_{dn}, the day/night average noise level, is a noise measurement based on human reaction to cumulative noise exposure over a 24-hour period, which takes into account the greater annoyance of nighttime noise (noise between 10 p.m. and 7 a.m. is weighted 10 dBA higher than daytime noise).

[2] dBA, a decibel (logarithmic unit of sound energy intensity) that is corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

6. Air Quality/Climate
Could the project:

	Yes	No	Discussed
*a. Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?		X	X
*b. Expose sensitive receptors to substantial pollutant concentrations?		X	X
c. Permeate its vicinity with objectionable odors?		X	X
d. Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?	X		X

San Francisco's persistent summer winds and its upwind position with respect to major pollutant sources continue to give it possibly the cleanest air in the Bay Area. Despite these advantages, there are periods, usually in fall and winter, when the air becomes stagnant. At these times the entire Bay Area has poor air quality. In 1981 and 1982 the maximum carbon monoxide (CO) concentrations recorded at the permanent Bay Area Air Quality Management District monitoring station at 900 23rd Street (about two miles south of the site) exceeded the federal CO standard of 9 parts per million (ppm); other measured pollutants were all below the standards.[1, 2] The state Air Quality standards for total suspended particulates (TSP) was exceeded in San Francisco for one day (one violation) in 1981 and three days (three violations) in 1982. Since elevated concentrations of TSP tend to be a local phenomenon, the concentrations measured at the monitoring station at 900 23rd Street would not necessarily be representative of TSP concetrations in the project vicinity.

In addition, a special monitoring program called a "Hotspot" program was conducted at 100 Harrison Street during the winter of 1980-81 approximately several blocks southeast of the proposed project. The highest observed eight-hour average carbon monoxide (CO) concentration was 7.8 ppm, which is 1.2 ppm less than the applicable air quality standard of 9 ppm.[3]

Two types of air quality impacts could be expected from this project: short-term impacts from construction activity, and long-term impacts related to use and operation of the structure. Climatic condition in downtown San Francisco allow rapid dispersal of air pollutants, so local stationary sources of emissions rarely create a measurable impact at monitoring stations. Rather, their impact is to add to regional accumulations of pollutants. Thus, the project would probably not result in direct violation of any ambient air quality standard, although it would contribute cumulatively to such excesses. The cumulative effects of this and other proposed projects in the project area will be discussed in the project EIR.

Construction activities would generate pollutants in the project vicinity. Trucks and equipment would release exhaust that would affect neighboring buildings during construction hours. Site preparation and construction activities would generate suspended particulate matter. Although emission factors upon which to base estimates of the resulting atmospheric concentrations of particulates are not available, violations of the state 24-hour TSP standard may result during site preparation and foundation construction but would not be expected to cause violations to sensitive receptors. Ambient concentrations of these pollutants would be increased for the duration of the construction period, however, no increases in measured concentrations at the 23rd Street monitoring station are expected to occur.

The project sponsor has agreed to the mitigation measure listed on pages 28; therefore, construction air quality impacts will not be discussed in the project EIR.

On the local scale, CO is the predominant pollutant emitted by motor vehicles. The project would act as a source of atmospheric emissions because of the vehicular traffic it would generate and this issue will require further analysis in the EIR.

Air quality impacts due to project-generated traffic and cumulative development, cumulative and project-related shadow and localized wind impacts will be discussed in the EIR.

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[1] Bay Area Air Quality Management District, Air Currents, Vol. 25, No. 3, San Francisco, California, March 1982.

[2] Bay Area Air Quality Management District, Air Currents, Vol. 24, No. 3, San Francisco, California, March 1981.

[3] Association of Bay Area Governments, AQMP Tech Memo 40, "Results of the 1980/1981 Hotspot Monitoring Program for Carbon Monoxide", Berkeley, California, January 1982.

7. Utilities/Public Services.
Could the project:

	Yes	No	Discussed
*a. Breach published national, state or local standards relating to solid waste or litter control?		X	X
*b. Extend a sewer trunk line with capacity to serve new development?		X	X
c. Substantially increase demand for schools, recreation or other public facilities?		X	X
d. Require major expansion of power, water, or communications facilities?		X	X

The proposed project would incorporate more extensive fire protection measures than the existing buildings on-site because of the more stringent fire and building code standards now in effect. The high pressure water mains and hydrants in the area are adequate to serve the area. No increase of personnel or equipment would be required due to this project or increased growth in the area.[1]

The proposed project is within the Central Police District. The area is patrolled 24-hours a day by radio-dispatched patrol cars. The project would increase population and property on the site, which would increase the potential for crime. The construction of a new project would not cause the need for additional police resources.[2]

A reduction in enrollment has been experienced in San Francisco public schools. The school district could accommodate any increase in school-aged children generated by the project.[3]

Embarcadero Center West would include approximately 37,500 gsf of publicly accessible open space and would be connected to the Embarcadero Center, and in close proximity to Justin Hermon Park. The project would not generate excessive demand on urban parks or other recreational facilities in the City. The project is not expected to have any direct effect on the maintenance of public facilities.

There would be a net increase in the consumption of energy generated by the proposed project. The project would conform to state standards (Title 24 of California Administrative Code).

The project would result in increased use of communication systems. Pacific Telephone does not anticipate any difficulty in providing service to the site.[4]

The development would result in an net increase of water consumption at the site. There are eight-inch mains on Clay, Sansome and Battery Streets and a six-inch main in Sacramento Street. The water department does not anticipate difficulty in serving the project.[5]

The amount of wastewater generated by the project would be about the same as the water consumed. There are mains in Sansome, Battery, Commercial, Clay and Sacramento which have adequate capacity to handle the sanitary flows generated by the project.[6] Sewage flows from the project would be treated at the Northpoint Treatment Center.

The proposed project would generate about 7 tons of solid waste per work day. The Golden Gate Disposal Company would remove solid waste and does not anticipate problems in meeting the demands generated by the proposed project. The disposal company encourages the use of trash compactors to reduce the indirect traffic impact of transporting San Francisco's solid waste to Mountain View (beginning November 1, 1983, waste will be brought to a site in Altamont, Alameda County).[7]

All utilities and public services could serve the project with existing capabilities and this topic does not require further discussion in the EIR.

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[1] Edward J. Phipps, Assistant Chief, Support Services, San Francisco Fire Department, letter communication, June 14, 1983.

[2] Hal Waterman, Planning and Research, San Francisco Police Department, telephone communication, June 30, 1983.

[3] San Francisco Unified School District, Proposal for Leasing and Selling Vacant Property, April 29, 1980, pages 28 and 29.

[4] P.H. Hampton, Building Industry Consultant, Pacific Telephone, telephone communication, July 19, 1983.

[5] Cy Wentworth, Water Estimator, San Francisco Water Department, City Distribution Division, telephone communication, July 19, 1983.

[6] Nat Lee, Engineering Associate II, Bureau of Sanitary Engineering, telephone communication, July 19, 1983.

[7] Fiore Garbarino, Manager, Golden Gate Disposal Company, telephone communication, July 19, 1983.

	Yes	No	Discussed
8. Biology. Could the project:			
*a. Substantially affect a rare or endangered species of animal or plant or the habitat of the species?		X	X
*b. Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?		X	X
c. Require removal of substantial numbers of mature, scenic trees?		X	X

The project site is totally covered over. With the exception of potted trees in place along the sidewalks bordering Parcels 2 and 3, no significant plants or animals exist on the project site. This matter does not require further discussion in the EIR. Landscaping and related development proposed with the project will be discussed in the EIR.

9. Geology/Topography
Could the project:

	Yes	No	Discussed
*a. Expose people or structures to major geologic hazards (slides, subsidence, erosion and liquefaction)?		X	X
b. Change substantially the topography or any unique geologic or physical features of the site?		X	X

The proposed project site is essentially level, at approximately Elevation +2 feet, San Francisco Datum (SFD).[1] According to a Geotechnical Study[2] of Embarcadero Center, adjacent to the project site, the underlying sediments consists of 22 feet of artifical fill and native sand overlying 20 feet of soft clay (Younger Bay Mud). These materials are underlain by 26 feet of dense sand, 22 feet of stiff clay (Older Bay Mud), and a thick layer of dense to very dense sand which extends to bedrock at approximately 155 to 167 feet below the site. Groundwater occurs about 10 feet below the existing ground surface.

Excavation would occur to a maximum of 70 feet. The foundation for the two high-rise buildings would either be a rigid mat or driven piles. Determination of the foundation type would be made by the project sponsors after additional geotechnical investigation.

The site area would experience very strong to violent groundshaking during a major earthquake along any of the five active fault zones which surround the City.[3] The site is in an area of potential liquefaction hazard.[3] Since all existing fill would be removed from the site during excavation for the basement levels and foundation, the potential for liquefaction would be reduced, so that this hazard would not be expected to occur.

The project would be constructed under supervision of California-licensed structural and geotechnical engineers and would comply with all applicable seismic and life safety standards.

Topography, soils, geology and seismicity require no further analysis in the EIR; however, potential impacts due to excavation at the project site will be discussed.

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[1] San Francisco Datum is approximately 8.6 feet above mean sea level.

[2] E.A. Miller, C.E. 72089, R.T. Lawson, C.E. 9775, Harding-Miller-Lawson & Associates, Phase 1, Foundation Investigation -Block 230, Embarcadero Center Project, San Francisco, October 1967, page 5.

[3] URS/John A. Blume and Associates, San Francisco Seismic Safety Investigation, San Francisco, June 1974, Figures 3 and 5.

	Yes	No	Discussed
10. Water. Could the project:			
*a. Substantially degrade water quality, or contaminate a public water supply?		X	X
*b. Substantially degrade or deplete ground water resources, or interfere substantially with groundwater recharge?		X	X
*c. Cause substantial flooding, erosion or siltation?		X	X

There is no surface water at the site. The site is currently covered with an impervious surface. The proposed project would not alter this situation. Runoff would continue to drain into the combined City storm/sewer system. Section 2903.1 of the San Francisco Building Code requires that the construction site be maintained so that it does not create or constitute a hazard. Adjacent streets would be mechanically swept by the demolition and excavation contractors so that silt would not be washed into the storm drains and dust would be removed.

Excavation would require dewatering. A California-licensed engineer would monitor this phase of construction. The project sponsor would follow recommendations of the geotechnical study prepared by a California-licensed engineer. These matters require no further discussion in the EIR.

	Yes	No	Discussed
11. Energy/Natural Resources. Could the project:			
*a. Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?		X	X

11. Energy/Natural Resources. (cont.)

	Yes	No	Discussed
b. Have a substantial effect on the potential use, extraction, or depletion of a natural resource?	___	X	X

There are no known natural resources (e.g. oil, minerals, potable groundwater) on the site. This issue requires no further analysis and will not be further addressed in the EIR. Project-generated and cumulative energy consumption impacts will be discussed in the EIR.

12. Hazards. Could the project:

	Yes	No	Discussed
*a. Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	___	X	___
*b. Interfere with emergency response plans or emergency evacuation plans?	___	X	X
c. Create a potentially substantial fire hazard?	___	X	X

An evacuation and emergency response plan would be developed as part of the proposed project (see D. Mitigation Measures, page 25). The project's emergency plan would be coordinated with the City's emergency planning activities. This issue will not be discussed in the EIR.

The project would increase building area and the number of persons using the site. This would not substantially increase the fire hazard at the site as the project would incorporate extensive fire protection measures and would conform to the Life Safety provisions of the San Francisco Building Code, and Title 24 of the state Building Code. Therefore, it is not anticipated that the project would create a substantial fire hazard and this issue will not be discussed in the EIR.

13. Cultural. Could the project:

	Yes	No	Discussed
*a. Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as a part of a scientific study?	___	X	X
*b. Conflict with established recreational, educational, religious or scientific uses of the area?	___	X	___
c. Conflict with preservation of any buildings of City landmark quality?	___	X	X

Historically, the project site was once within San Francisco Bay. Wharves are known to have existed along the east-west streets in the area. The remains of the storeship Apollo were uncovered and removed at Sacramento and Battery Streets during excavation in 1925.[1] The California Archaelogical Inventory does not expect encountering of archaelogical materials to occur during excavation.[2] The project sponsor has included a mitigation measure addressing this potential impact (see D. Mitigation Measures, page 25).

The project site contains two structures of potential architectural or historical significance. Both the Federal Reserve Bank building and the 241 Battery Street building are included in the list of architecturally and/or historically significant buildings adopted by City Planning Commission Resolution No. 8600. Neither building was rated in the architectural survey done by the Department of City Planning. The Federal Reserve Bank building is rated "B"[3] by the Foundation for San Francisco's Architectural Heritage (Heritage), has been designated as a San Francisco City landmark and has been declared eligible for listing in the National Register of Historic Places. The project would include preservation and adaptive reuse of this building.

The 241 Battery Street building has been rated "B" by Heritage but has been determined ineligible for listing in the National Register of Historic Places. This building would be demolished in conjuction with the proposed project.

The project's impacts on architectural resources will be discussed in the EIR.

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[1] Olmsted. Roger R, Nancy Olmsled and Allen Pastron, San Francisco Waterfront Report on Historical Cultural Resources for the North Shore and Channel Outfalls Consolidation Projet. prepared for San Francisco Wastewater Management Program, December 1977.

[2] Maureen Steiner, California Archaelogical Inventory, Sonoma State University, telephone conversation July 20, 1983.

[3] A "B" rating as defined by Heritage in Splendid Survivors (published by California Living Books, 1979) indicates buildings of major importance which are "individually important by virtue of architectural, historical and environmental criteria. These buildings tend to stand out for their overall quality rather than for any particular outstanding characteristic."

C. OTHER

	Yes	No	Discussed
Require approval of permits from City Departments other than DCP or BBI, or from Reigonal, State or Federal Agencies?	X		X

See Section III.A., Compatibility with Existing Zoning and Plans, page 11 for a discussion of required approvals for the project.

D. MITIGATION MEASURES

	Yes	No	N/A	Discussed
1. If any significant effects have been identified, are there ways to mitigate them?	X			X
2. Are all mitigation measures identified above included in the project?	X			X

MITIGATION MEASURES INCLUDED AS PART OF THE PROJECT

The following are mitigation measures related to topics determined to require no further analysis in the EIR. The EIR will contain a mitigation chapter describing these measures and other measures which would be, or might be, adopted to reduce the potential adverse effects of the project as identified in the EIR.

1. An evacuation and emergency response plan would be developed by project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to insure coordination between the City's emergency planning activities and the project's plan and to provide for building occupants in the event of an emergency.

The project plan would be reviewed by the Office of Emergency Services and implemented by building management insofar as feasible before issuance by the Department of Public Works of final building permits.

2. Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist or other expert to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate.

3. The California Health and Safety Code requires that measures be taken to minimize dust generation, specifically, watering of demolition materials and soils. The project sponsor would require the contractor to implement a twice-daily watering program, which would reduce the likelihood of airborne construction dust and particulates exceeding state and federal standards. An effective watering program (complete coverage twice-daily) can reduce emissions by about 50%. Adjacent streets would be mechanically swept by the demolition and excavation contractors so that silt would not be washed into the storm drains and dust would be removed.

E. ALTERNATIVES

	Yes	No	Discussed
1. Were alternatives considered?	X		X

Several alternatives to the proposed project will be discussed in the EIR, including:

- No Project Alternative
- Alternative Design Requiring No Special Authorizations
- Alternative Consistent With Controls Proposed In Guiding Downtown Development (July 1982)
- Alternative Consistent With Controls Proposed In the Downtown Plan (August 1983)
- Alternative Design With No On-Site Parking Except As Required by the Planning Code

F. MANDATORY FINDINGS OF SIGNIFICANCE

		Yes	No	Disc.
*1.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal, or eliminate important examples of the major periods of California history or prehistory?		X	
*2.	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?		X	
*3.	Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X		X
*4.	Would the project cause substantial adverse effects on human beings, either directly or indirectly?		X	
*5.	Is there a serious public controversy concerning the possible environmental effect of the project?		X	

The project could contribute to the cumulative effects of downtown development, and these matters will be discussed in the EIR.

On the basis of this initial evaluation:

___ I find the proposed COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

___ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers __, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Alec S. Bash

Alec S. Bash
Environmental
Review Officer

for

Dean Macris
Director

Date: 8/31/83

APPENDIX B

TRANSPORTATION

TABLE B-1

PEDESTRIAN FLOW REGIMES

Flow Regime	Walking Speed Choice	Conflicts	Average Speed Rate (P/F/M)[1]
Open	Free Selection	None	0.5
Unimpeded	Some Selection	Minor	0.5 - 2.0
Impeded	Some Selection	High Indirect Interaction	2.0 - 6.0
Constrained	Some Restriction	Multiple	6.0 - 10.0
Crowded	Restricted	High Probability	10.0 - 14.0
Congested	All Reduced	Frequent	14.0 - 16.0
Jammed	Shuffle Only	Unavoidable	16.0+

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[1] P/F/M - Pedestrians per foot of sidewalk width per minute.

Source: Boris Pushkarev and Jeffrey M. Zupan, Urban Space for Pedestrians, Massachusetts, MIT Press, 1975.

INTERSECTION ANALYSIS

The capacity analysis of each intersection at which a turning movement count was made utilized the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity," Transportation Research Circular No. 212, Transportation Research Board, January 1980). The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service.

TABLE B-2

LEVELS OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS

Level of Service A

Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.

Level of Service B

Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.

Level of Service C

Level of Service C describes a condition where the approach to an intersection is often fully utilized and backups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally must have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.

Level of Service D

Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive backups. The traffic operation can generally be described as fair.

Level of Service E

Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting upstream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.

Level of Service F

Level of Service F represents a jammed condition. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.

Source: City and County of San Francisco, Department of Public Works, Traffic Engineering Division.

TABLE B-3

PASSENGER LEVELS OF SERVICE ON BUS TRANSIT

Level of Service A	Volume/Capacity (v/c) Ratio*
Level of Service A describes a condition of excellent passenger comfort. Passenger loadings are low with less than half the seats filled. There is little or no restriction on passenger maneuverability. Passenger loading times do not affect scheduled operation.	0.00-0.50
Level of Service B	
Level of Service B is in the range of passenger comfort with moderate passenger loadings. Passengers still have reasonable freedom of movement on the transit vehicle. Passenger loading times do not affect scheduled operations.	0.51-0.75
Level of Service C	
Level of Service C is still in the zone of passenger comfort, but loadings approach seated capacity and passenger maneuverability on the transit vehicle is beginning to be restricted. Relatively satisfactory operating schedules are still obtained as passenger loading times are not excessive.	0.76-1.00
Level of Service D	
Level of Service D approaches uncomfortable passenger conditions with tolerable numbers of standees. Passengers have restricted freedom to move about on the transit vehicle. Conditions can be tolerated for short periods of time. Passenger loadings begin to affect schedule adherence as the restricted freedom of movement for passengers requires longer loading times.	1.01-1.25
Level of Service E	
Level of Service E passenger loadings approach manufacturers' recommended maximums and passenger comfort is at low levels. Freedom to move about is substantially diminished. Passenger loading times increase as mobility of passengers on the transit vehicle decreases. Scheduled operation is difficult to maintain at this level. Bunching of buses tends to occur which can rapidly cause operations to deteriorate.	1.26-1.50
Level of Service F	
Level of Service F describes crush loadings. Passenger comfort and maneuverability is extremely poor. Crush loadings lead to deterioration of scheduled operations through substantially increased loading times.	1.51-1.60

Source: Interim Materials on Highway Capacity, Transportation Research Circular 212, pages 73-113, Transportation Research Board, 1980.

TABLE B-4

TRAFFIC LEVELS OF SERVICE FOR FREEWAYS

	Volume/Capacity (v/c) Ratio*
Level of Service A Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.	0.00-0.60
Level of Service B Level of Service B is in the higher speed range of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted.	0.61-0.70
Level of Service C Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes or pass. A relatively satisfactory operating speed is still obtained.	0.71-0.80
Level of Service D Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.81-0.90
Level of Service E Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds (typically about 30 to 35 mph) than in Level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.	0.91-1.00
Level of Service F Level of Service F describes forced flow operation at low speeds (less than 30 mph), in which the freeway acts as storage for queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00+

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*Capacity is defined as level of Service E.

Source: Highway Capacity Manual, Special Report 87, Highway Research Board, 1965.

PHOTOGRAPHS OF PEAK MUNI LOADING CONDITIONS

B-3

J CHURCH - ST. AND DUBOCE AVE.

Tuesday, September 29, 1981 - 9:00 A.M. - Outbound

30X MARINA EXPRESS - BAYSHORE AVE. AND ARIETA AVE.

Wednesday, October 7, 1981 - 8:00 - Inbound

SOURCE: ESA

EXISTING PEDESTRIAN CONDITIONS

B-4

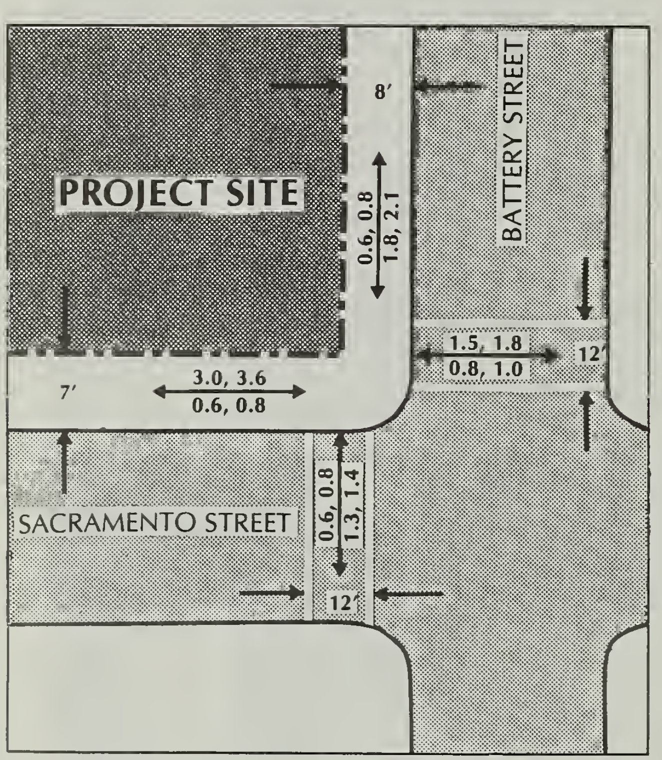
PEAK MID-DAY FLOW RATE
PEAK P.M. FLOW RATE

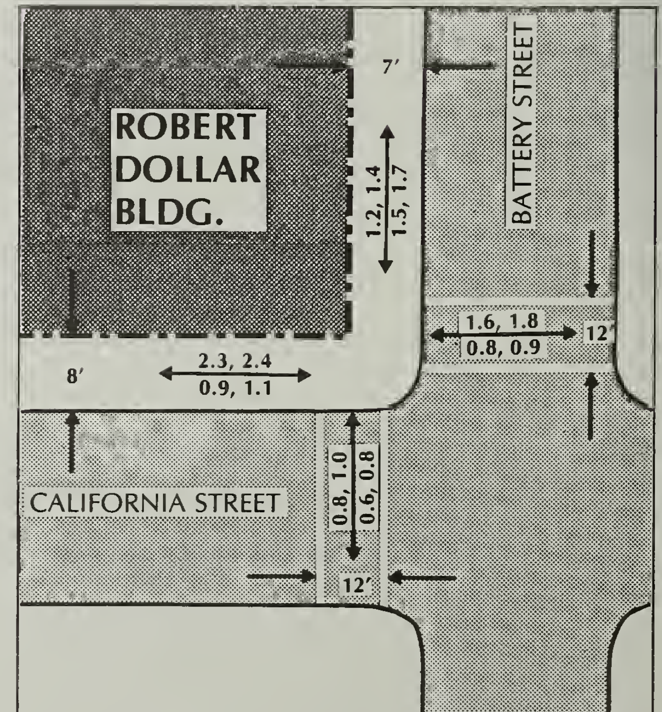
Flow rates are pedestrians per minute per foot of walkway width

Flow rates of up to 0.5 reflect "open" pedestrian conditions. A rate of 0.5—2 represents "umimpeded" conditions. Complete pedestian flow definitions are included in the appendices.

SOURCE: EIP CORPORATION

NOT TO SCALE





APPENDIX C

WIND STUDY METHODOLOGY

This summary of wind study methodology is based upon the study entitled "Microclimate Impact Study for the Embarcadero Center West Project", prepared by Environmental Impact Planning Corporation. This report is available for review at the Office of Environmental Review, Department of City Planning, 450 McAllister Street, San Francisco.

Tests were performed on a 1 inch = 30 ft. scale model of the project site and surrounding several blocks. All proposed, approved and under-construction buildings within the area modeled were included.

Tests were conducted in Environmental Impact Planning Corporation's boundary-layer wind tunnel in San Francisco. The tunnel has a cross section 7-ft. wide by 5-ft. high, and has a total length of 60 ft. Speeds within the tunnel can be varied from approximately 3 to 12 mph.

Visualization of the flow was performed by releasing flood-lit smoke near the model. Wind speeds were measured at 48 locations near the project site for existing conditions and with the project in place. Measurements were made with a hot-film probe and a constant-temperature anemometer, an instrument that electronically relates heat loss from the probe to wind speed. Mean windspeeds measured over the model were related statistically to real-world winds by comparing measured winds to the free-stream wind above the model. Predicted mean speeds for northwest, west, and southwest winds during a typical summer afternoon were obtained for each point. These predicted mean windspeeds were compared to comfort and hazard criteria for wind. Figure C-1 shows areas exceeding the comfort criterion due to project construction.

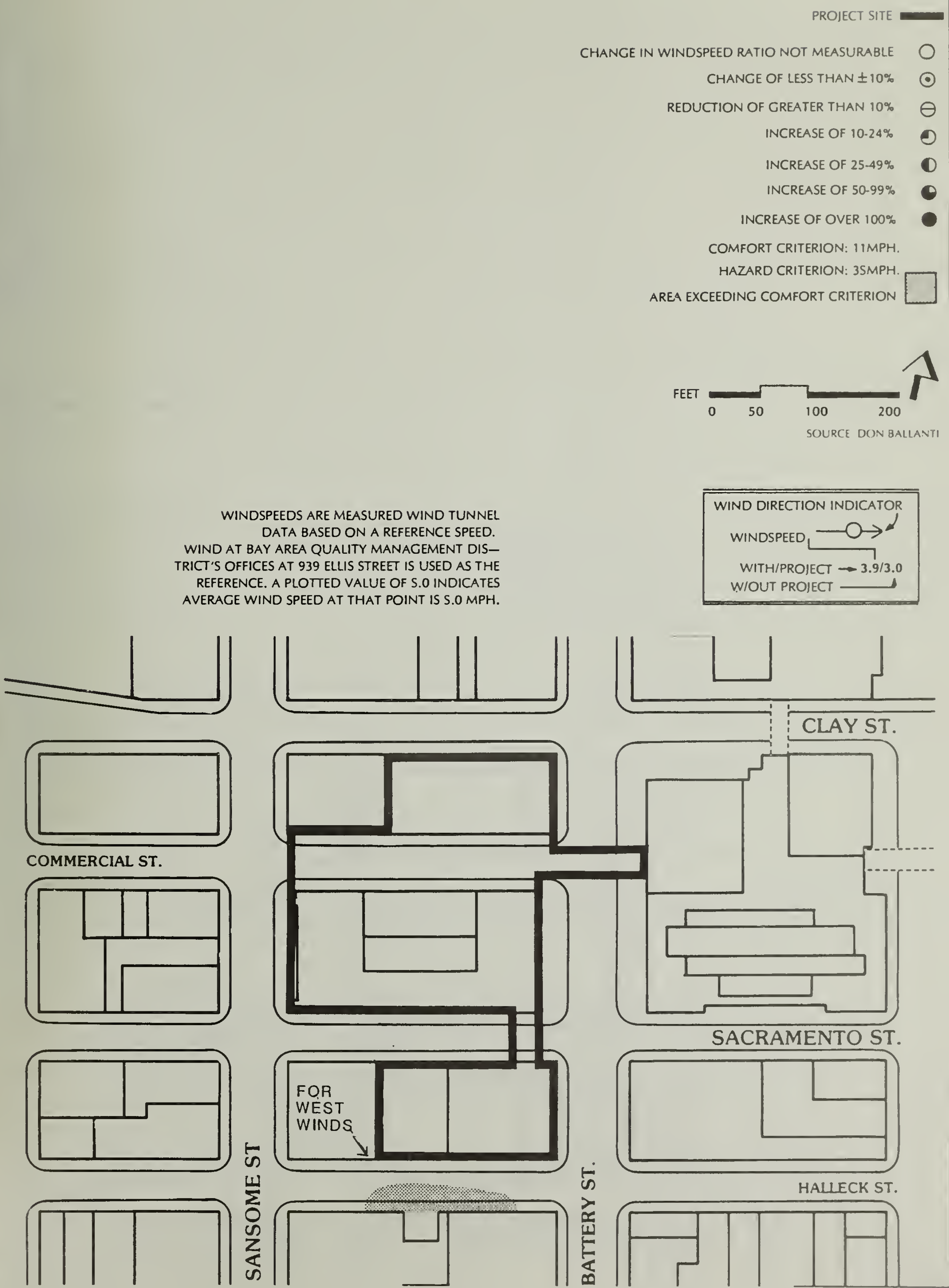
The exceedances of the comfort criterion predicted for west winds along Halleck Street would apparently be caused by the interaction between the proposed Parcel 3 building and existing buildings. The narrowness of the streets also contributes to the "funneling" of west winds between the buildings. Design changes to the building on Parcel 3 to improve wind conditions at these locations would involve reducing the extent and "bluffness" of the building's westerly facade. A narrow west facade, or a complex west facade with additional setbacks and cutouts at lower levels, would intercept less wind and have less of a tendency to accelerate ground-level winds. Reductions in height alone are not likely to change wind accelerations greatly.

Different tower shapes would reduce ground-level winds, particularly if the area and extent of the west facade are reduced by aligning the tower's long axis east-west, as for the proposed building on Parcel 1.

The above measures have not been evaluated for effectiveness. Quantitatve evaluation of proposed mitigation measures would require additional wind tunnel testing.

SUMMARY OF WIND IMPACTS

C-1



WINDSPEEDS ARE MEASURED WIND TUNNEL DATA BASED ON A REFERENCE SPEED. WIND AT BAY AREA QUALITY MANAGEMENT DISTRICT'S OFFICES AT 939 ELLIS STREET IS USED AS THE REFERENCE. A PLOTTED VALUE OF 5.0 INDICATES AVERAGE WIND SPEED AT THAT POINT IS 5.0 MPH.

WIND IMPACT ANALYSIS NORTHWEST WINDS

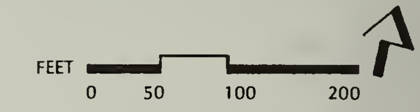
C-2

PROJECT SITE	▬
CHANGE IN WINDSPEED RATIO NOT MEASURABLE	○
CHANGE OF LESS THAN ±10%	⊙
REDUCTION OF GREATER THAN 10%	⊖
INCREASE OF 10-24%	◔
INCREASE OF 25-49%	◑
INCREASE OF 50-99%	◕
INCREASE OF OVER 100%	●

COMFORT CRITERION: 11MPH.

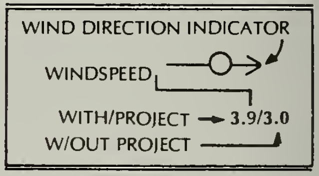
HAZARD CRITERION: 35MPH.

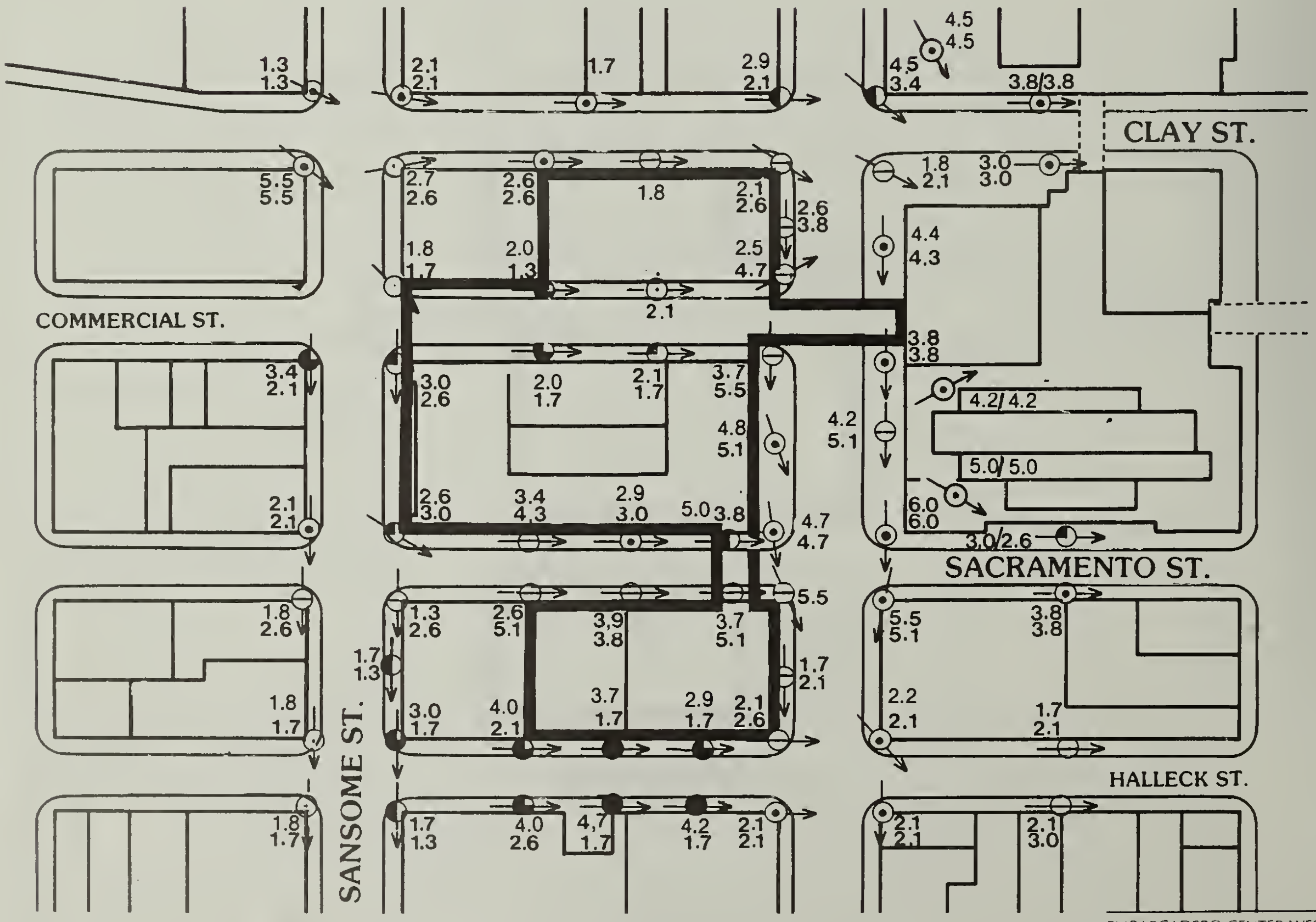
AREA EXCEEDING COMFORT CRITERION ▨



SOURCE: DON BALLANTI

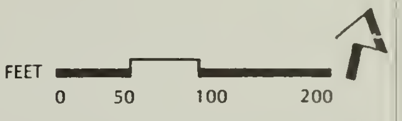
WINDSPEEDS ARE MEASURED WIND TUNNEL DATA BASED ON A REFERENCE SPEED. WIND AT BAY AREA QUALITY MANAGEMENT DISTRICT'S OFFICES AT 939 ELLIS STREET IS USED AS THE REFERENCE. A PLOTTED VALUE OF 5.0 INDICATES AVERAGE WIND SPEED AT THAT POINT IS 5.0 MPH.





WIND IMPACT ANALYSIS WEST WINDS

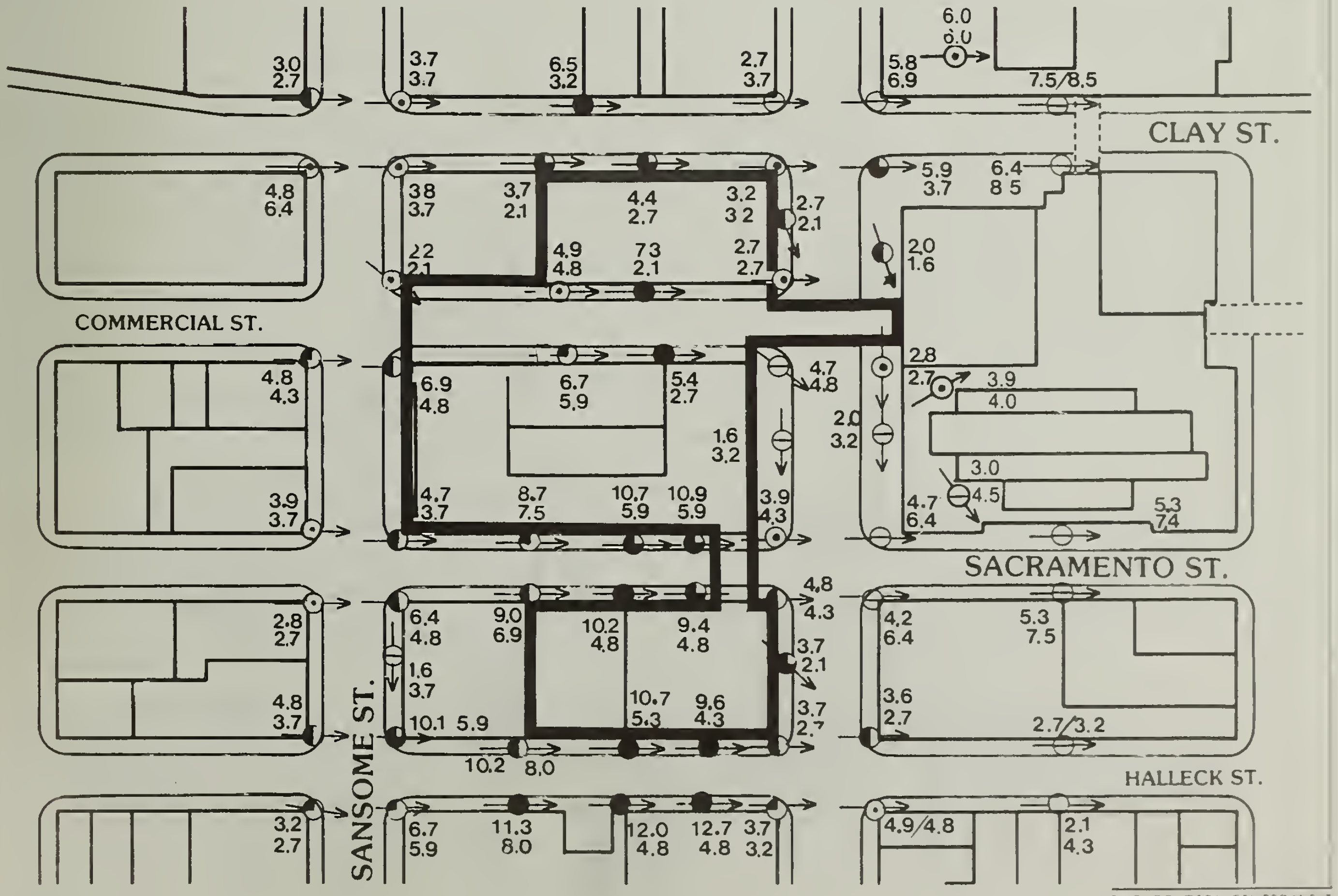
CHANGE IN WINDSPEED RATIO NOT MEASURABLE ○
CHANGE OF LESS THAN ±10% ⊙
REDUCTION OF GREATER THAN 10% ⊖
INCREASE OF 10-24% ◔
INCREASE OF 25-49% ◐
INCREASE OF 50-99% ◕
INCREASE OF OVER 100% ●
COMFORT CRITERION: 11MPH.
HAZARD CRITERION: 35MPH.
AREA EXCEEDING COMFORT CRITERION ☐



SOURCE DON BALLANTI

WINDSPEEDS ARE MEASURED WIND TUNNEL DATA BASED ON A REFERENCE SPEED. WIND AT BAY AREA QUALITY MANAGEMENT DISTRICT'S OFFICES AT 939 ELLIS STREET IS USED AS THE REFERENCE. A PLOTTED VALUE OF 5.0 INDICATES AVERAGE WIND SPEED AT THAT POINT IS 5.0 MPH.

WIND DIRECTION INDICATOR
WINDSPEED
WITH/PROJECT → 3.9/3.0
W/OUT PROJECT



WIND IMPACT ANALYSIS SOUTHWEST WINDS

C-4

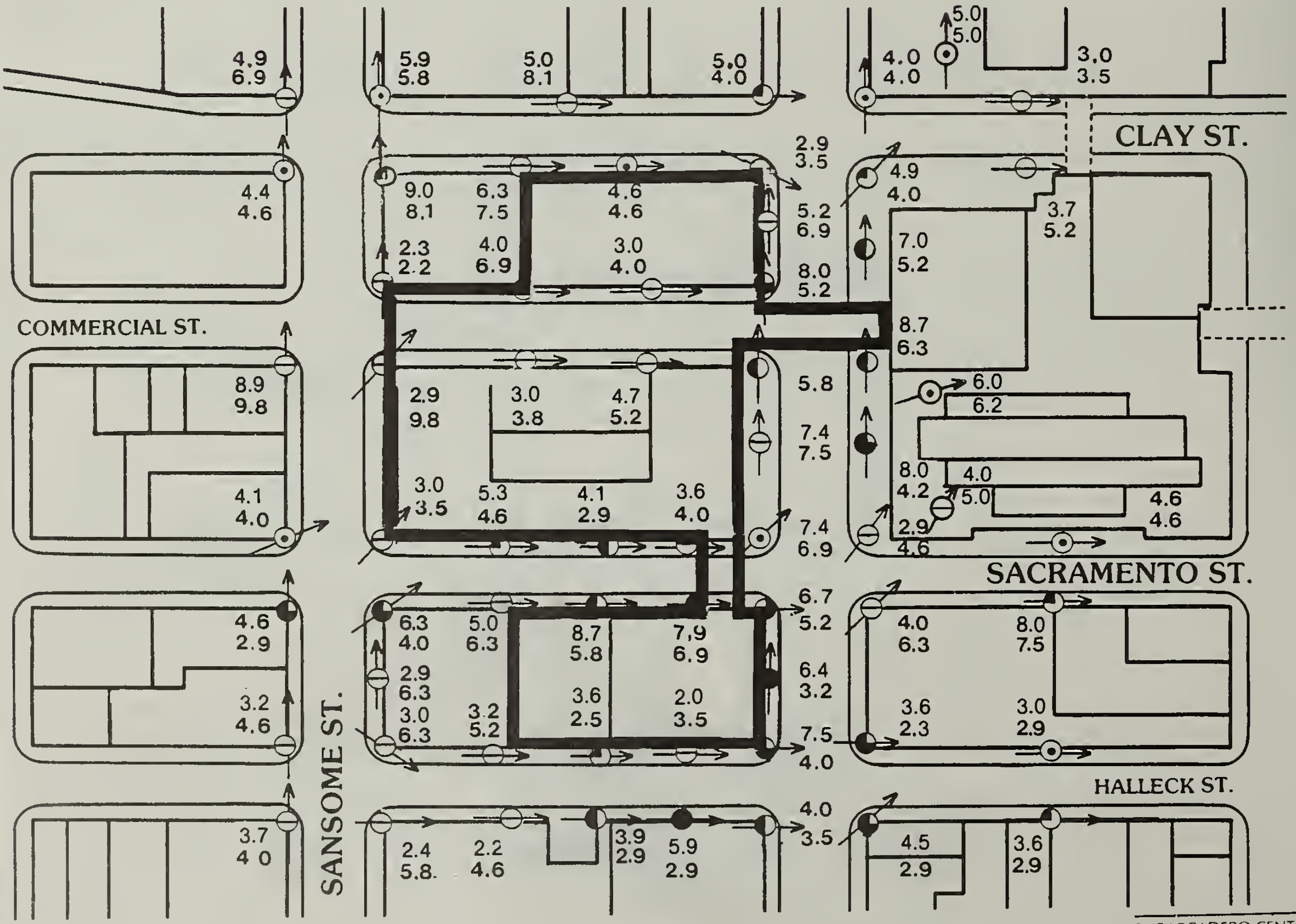
CHANGE IN WINDSPEED RATIO NOT MEASURABLE ○
CHANGE OF LESS THAN ±10% ⊙
REDUCTION OF GREATER THAN 10% ⊖
INCREASE OF 10-24% ◔
INCREASE OF 25-49% ◑
INCREASE OF 50-99% ◕
INCREASE OF OVER 100% ●
COMFORT CRITERION: 11MPH.
HAZARD CRITERION: 35MPH
AREA EXCEEDING COMFORT CRITERION ▨

FEET 0 50 100 200

SOURCE: DON BALLANTI

WIND DIRECTION INDICATOR
WINDSPEED
WITH/PROJECT → 3.9/3.0
W/OUT PROJECT

WINDSPEEDS ARE MEASURED WIND TUNNEL DATA BASED ON A REFERENCE SPEED. WIND AT BAY AREA QUALITY MANAGEMENT DISTRICT'S OFFICES AT 939 ELLIS STREET IS USED AS THE REFERENCE. A PLOTTED VALUE OF 5.0 INDICATES AVERAGE WIND SPEED AT THAT POINT IS 5.0 MPH.



APPENDIX D

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

This section provides background information to aid in understanding the technical aspects of this report.

Three dimensions of environmental noise are important in determining subjective response. These are:

a. the intensity or level of the sound

b. the frequency spectrum of the sound

c. the time-varying character of the sound

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing.

The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or Hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in level. The quantitative expression of the frequency and level content of a sound is its sound spectrum. A sound spectrum for engineering purposes is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into ten segments.

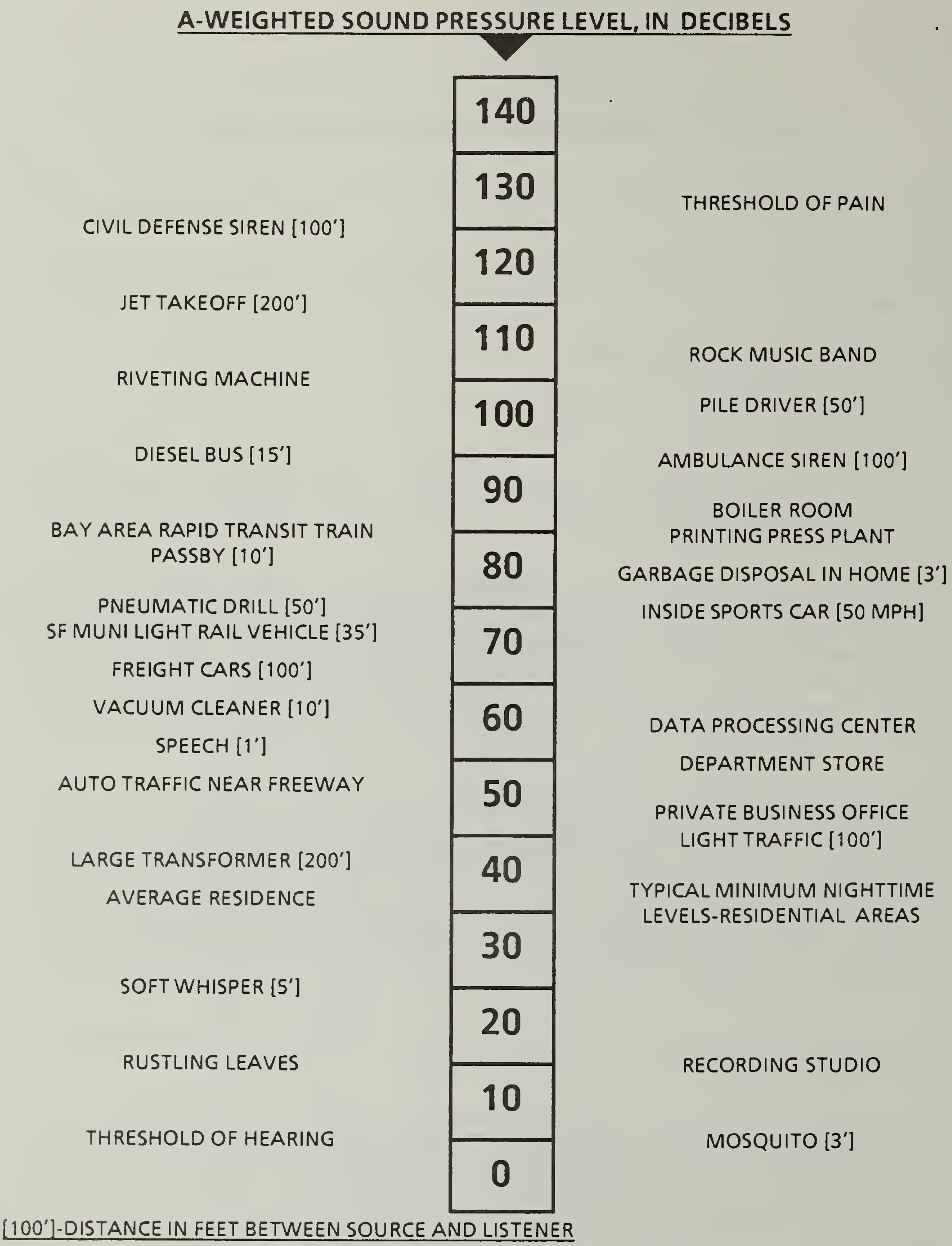
Many rating methods have been devised to permit comparisons of sounds having quite different spectra. Fortunately, the simplest method correlates with human response practically as well as the more complex methods. This method consists of evaluating all of the frequencies of a sound in accordance with a weighting that progressively and severely deemphasizes the importance of frequency components below 1000 Hz, with mild deemphasis above 5000 Hz. This type of frequency weighting reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange.

The weighting curve described above is called "A" weighting, and the level so measured is called the "A-weighted sound level," or simply "A-level."

The A-level in decibels is expressed "dBA"; the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. In practice, the A-level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All U.S. and international standard sound level meters include such a filter. Typical A-levels measured in the environment and in industry are shown in Figure 1.

Although the A-level may adequately describe environmental noise at any instant in time, the fact is that the community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise souces which create a relatively steady background noise in which no particular source is identifiable. These distant sources may

D-I



TYPICAL SOUND LEVELS
MEASURED IN THE ENVIRONMENT AND INDUSTRY

include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly from hour to hour as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events of brief duration. These may include nearby activities or single vehicle passages, aircraft flyovers, etc., which cause the environmental noise level to vary from instant to instant.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. The L10 is the A-weighted sound level equaled or exceeded during 10 percent of a stated time period. The L10 is considered a good measure of the "average peak" noise. The L50 is the A-weighted sound level that is equaled or exceeded 50 percent of a stated time period. The L50 represents the median sound level. The L90 is the A-weighted sound level equaled or exceeded during 90 percent of a stated time period. The L90 is used to describe the background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the Leq is also widely used. The Leq is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period. The Leq is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

In determining the daily measure of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noises become very noticeable. Further, most people are sleeping at night and are very sensitve to noise intrusion.

To account for human sensitivity to nighttime noise levels a descriptor, Ldn, (day-night equivalent sound level) was developed. The Ldn divides the 24-hour day into the daytime of 7 a.m. to 10 p.m. and the nighttime of 10 p.m. to 7 a.m. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Ldn, then, is the A-weighted average sound level in decibels during a 24-hour period with 10 dBA added to the hourly Leqs during the nighttime. For highway noise environments the Leq during the peak traffic hour is approximately equal to the Ldn.

The effects of noise on people can be listed in three general categories:

1. subjective effects of annoyance, nuisance, dissatisfaction
2. interference with activities such as speech, sleep, learning
3. physiological effects such as startle, hearing loss

The sound levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Unfortunately, there is as yet no completely satisfactory measure of the subject effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise.

Thus, an important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far." In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers.

With regard to increases in noise level, knowledge of the following relationships will be helpful in understanding the quantitative sections of this report:

1. Except in carefully controlled laboratory experiments, a change of only 1 dBA cannot be perceived.

2. Outside of the laboratory, a 3-dBA change is considered a just-noticeable difference.

3. A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.

4. A 10-dBA change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

Source : Charles M. Salter Associates, Inc., December 1982.

APPENDIX E
CUMULATIVE DEVELOPMENT

The list of office and retail projects shown in Table E-1 was prepared as a background document for a land use-based method of analyzing cumulative impacts. A land use-based cumulative analysis is one of the two methods of cumulative analyses suggested by the State CEQA Guidelines (Section 15130(b) (1) (A)), whereby a list of related projects is used to determine the combined effects of the whole and to determine the contribution of a proposed office or retail project to the overall cumulative effect. This is only one method of determining cumulative impacts. The other method of determining cumulative impacts is an analysis based on estimates of total employment projected for the area. This latter method is permitted by State Guidelines Section 15130(b) (1) (B) if the employment projections are based on an appropriate planning document.

The attached cumulative list is an expanded version of past lists and includes all office and large retail projects proposed, approved, under construction and recently completed in the greater downtown area which have active applications in the Department of City Planning. This list is appropriate for use only in a land use-based analysis of the cumulative impacts of office/retail projects in the greater downtown.

Relevant Redevelopment Agency projects have been included in the list. The Rincon Point/South Beach Redevelopment Area includes four projects: 77,000 square feet of office space at 181 Steuart Street, 200,000 square feet of office space on First Street, and a 30,000-square-foot office building, all in at least preliminary negotiation stages between the Agency and potential developers; and 453,000 square feet of office space proposed by the U.S. Post Office at the Rincon Annex site (source: San Francisco Redevelopment Agency). The listing for the Yerba Buena Gardens in the YBC Redevelopment Area includes 1.2 million square feet of office space in the Olympia and York proposal (source: S.F. Redevelopment Agency). Other office buildings in the YBC and applicable parts of the Western Addition Redevelopment Areas are listed under individual

APPENDIX E

TABLE E-1

CUMULATIVE DOWNTOWN OFFICE DEVELOPMENT IN SAN FRANCISCO
AS OF MARCH 10, 1984

PROJECTS UNDER FORMAL REVIEW

Assessor's Block	Case No.	Project Name	Office Gross Sq. Ft. Total New Construction	Office Gross Sq. Ft. Net New Construction	Retail Gross Sq. Ft. Total New Construction	Retail Gross Sq. Ft. Net New Construction
59	83.177E	1620 Montgomery	82,270	45,390	---	---
110	82.129E	Embarcadero Terraces (1000 Front)	139,000	139,000	3,000	3,000
112	83.447E	1100 Sansome	55,000	48,000	---	---
113	82.418E	1171 Sansome	30,000	30,000	---	---
113	8264603	220 Green	3,520	3,520	---	---
130	83.612C	1558 Powell	2,500	2,500	---	---
136	83.476V	962 Battery	15,000	15,000	---	---
192	83.412ED	1055 Stockton	---	---	81,500	66,500
194	83.128E	732 Washington	17,500	17,500	11,240	11,240
195	82.643E	660 Washington	3,938	3,938	---	---
227	82.463E	505 Montgomery	327,300	300,670	12,100	-4,775
228	83.422E	560 Sacramento	48,000	31,000	---	---
229	83.222EC	Embarcadero West	575,000	382,000	9,000	9,000
236	82.511E	222 Front	40,250	33,400	3,250	0
258	82.421E	Pine/Kearny	186,000	186,000	6,750	6,750
266	83.420ED	98 Battery	169,000	106,500	---	---
267	83.421ED	225 Pine	134,000	134,000	---	---
287	83.91ED	237 Kearney/Bush	99,600	87,800	6,100	2,400
288	83.148E	665 Bush (M)	12,400	2,600	---	-2,700
309	83.333E	212 Stockton	32,220	15,885	21,700	16,200
326	8312187	156 Ellis	3,200	3,200	---	---
327	82.445E	Stockton/O'Farrell	43,300	25,750	57,950	28,000
331	81.448E	Mixed Use Development (M)	50,000	50,000	70,000	49,000
336	83.21ECV	440 Turk	25,000	8,150	---	---
642	83.218V	1699 Van Ness	20,000	20,000	---	---
814	81.540E	101 Hayes	132,000	132,000	6,000	6,000
3526	83.475V	530-550 9th	42,300	42,300	---	---
3702	83.196E	1169 Market, Trinity	820,000	805,000	40,000	40,000

TABLE E-1
(continued)

PROJECTS UNDER FORMAL REVIEW (continued)

Assessor's Block	Case No.	Project Name	Office Gross Sq. Ft. Total New Construction	Office Gross Sq. Ft. Net New Construction	Retail Gross Sq. Ft. Total New Construction	Retail Gross Sq. Ft. Net New Construction
3704	83.404	901 Market, Penney's	145 500	126,000	80,000	80,000
3705	83.314E	5th and Market	880,000	778,000	120,000	40,000
3707	SFRA	YBC Office Bldg.	593,000	593,000	---	---
3708	81.297ED	Lincoln Plaza (562 Mission)	405,000	265,000	10,000	10,000
3708	83.75E	49 Stevenson	169,600	136,900	9,800	-2,900
3721	83.331E	100 First @ Mission	348,920	342,000	---	---
3721	83.40EZD	524 Howard	279,000	279,000	15,000	15,000
3735	83.313E	35 Hawthorne	47,400	47,400	2,900	2,900
3736	83.311E	299 2nd @ Folsom	206,000	171,000	10,000	10,000
3744	84.41E	Hills Brothers	635,000	535,000	40,000	40,000
3749	83.464EV	50 Guy Place	17,500	17,500	---	---
3752	83.310E	837 Folsom	200,000	200,000	---	---
3769	83.213EV	59 Harrison	113,500	49,750	---	---
3776	83.451E	501 Bryant	67,000	35,000	14,000	4,000
3778	83.547E	775 Bryant	27,890	27,890	3,675	3,675
3786	82.33E	655 5th/Townsend	126,250	126,250	---	---
3786	83.272EV	525 Brannon	13,500	13,500	---	---
3788	82.352EV	640 2nd Street	39,100	37,400	---	---
3789	82.31EV	615 2nd/Brannan (C)	90,000	70,000	9,300	9,300
3794	83.545V	139 Townsend	51,200	50,000	---	---
3923	81.491EVF	1550 Bryant	80,600	49,600	---	---
-	SFRA	Yerba Buena Gardens	1,340,000	1,340,000	---	---
-	SFRA	Rincon Point/S. Beach	760,000	760,000	---	---
	TOTAL PROJECTS UNDER FORMAL REVIEW		**9,744,260**	**8,721,295**	**643,265**	**442,590**

(C) = Conversion (generally industrial and/or warehouse to office)
(M) = Mixed Use (office/residential/commercial)

TABLE E-1
(continued)

APPROVED PROJECTS

Assessor's Block	Case No.	Project Name	Office Gross Sq. Ft. Total New Construction	Office Gross Sq. Ft. Net New Construction	Retail Gross Sq. Ft. Total New Construction	Retail Gross Sq. Ft. Net New Construction
65	82.168V	990 Columbus	12,000	12,000	---	---
112	81.258	Ice House Conversion (C)	209,000	209,000	---	---
164	81.583D	50 Osgood Place	22,500	22,500	9,100	9,100
176	82.368E	900 Kearny	25,000	25,000	5,000	5,000
176	83.229E	801 Montgomery	31,800	31,800	6,200	6,200
225	81.403ED	814 Stockton	3,500	3,500	3,300	3,300
265	81.195ED	388 Market at Pine (M)	234,500	85,500	10,000	-8,500
268	81.422D	250 Montgomery at Pine	105,700	65,700	8,000	8,000
271	83.13E	582 Bush	18,100	18,100	800	800
288	81.687ED	222 Kearny/Sutter	150.000	49,950	10,000	-8,400
294	82.87D	44 Campton Place	7,600	7,600	---	---
642	82.224VEC	1750 California	82,525	82,525	---	---
669	81.667ED	1361 Bush	13,000	13,000	---	---
671	82.24V	1581 Bush (C)	16,000	16,000	---	---
690	SFRA	Post/Van Ness	88,000	88,000	---	---
716	81.581ED	Polk/O'Farrell (M)	61,600	61,600	22,400	22,400
818	83.94EV	583-591 Hayes (C)	4,900	4,900	---	---
3504	82.137V	44 Gough (C)	30,000	30,000	---	---
3702	81.549ED	1145 Market	137,500	108,500	8,000	8,000
3705	80.315	Apparel Mart III	332,400	332,400	---	---
3707	81.492ED	90 New Montgomery	124,300	124,300	3,350	3,350
3707	81.245DA	New Montgomery Place	227,500	209,700	2,200	-3,900
3708	81.493ED	71 Stevenson	324,600	324,600	6,200	6,200
3709	81.113ED	Central Plaza	353,100	136,300	17,400	17,400
3717	81.183E	123 Mission	342,800	342,800	---	---
3724	81.102E	Holland Ct. (C)	27,850	27,850	---	---
3729	82.86D	774 Tehama	5,800	5,800	---	---
3733	EE81.2	868 Folsom	65,000	65,000	---	---
3733	82.29E	832 Folsom	50,000	50,000	---	---
3735	SFRA	75 Hawthorne (C)	61,900	61,900	---	---
3738	DR80.5	315 Howard	294,000	294,000	3,200	3,200
3749	EE81.18	Marathon - 2nd & Folsom	686,700	686,700	35,300	35,300
3750	82.241E	600 Harrison	228,000	228,000	10,000	10,000
3750	82.77V	642 Harrison (C)	54,400	45,900	---	---
3764/74	82.591E	Second Street Square (C)	333 000	263,000	25,000	25,000
3775	81.147V	338-340 Brannan (C)	36,000	36,000	---	---

TABLE E-1
(continued)

APPROVED PROJECTS (continued)

Assessor's Block	Case No.	Project Name	Office Gross Sq. Ft. Total New Construction	Office Gross Sq. Ft. Net New Construction	Retail Gross Sq. Ft. Total New Construction	Retail Gross Sq. Ft. Net New Construction
3776	EE81.59	Welsh Commons (M)	55,600	55,600	12,000	12,000
3788	81.296Z	690 2nd/Townsend (C)	16,600	16,600	16,000	16,000
3789	81.552EV	625 2nd/Townsend (C)	157,000	157,000	---	---
3794	81.569EV	123 Townsend	104,000	49,500	---	---
3794		155 Townsend	19,000	19,000	---	---
3803	81.244D	China Basin Expansion	196,000	196,000	---	---
9900	81.63E	Ferry Building Rehab	309,500	97,500	163,500	124,000
	TOTAL APPROVED PROJECTS		**5,658,275**	**4,760,625**	**376,950**	**294,450**

(C) = Conversion (generally industrial and/or warehouse to office)
(M) = Mixed Use (office/residential/commercial)

TABLE E-1
(continued)

PROJECTS UNDER CONSTRUCTION

Assessor's Block	Case No.	Project Name	Office Gross Sq. Ft. Total New Construction	Office Gross Sq. Ft. Net New Construction	Retail Gross Sq. Ft. Total New Construction	Retail Gross Sq. Ft. Net New Construction
58	82.234E	Roundhouse (C)	45,000	45,000	3,000	3,000
136	81.243E	955 Front/55 Green	50.000	50,000	---	---
143	81.353ED	1000 Montgomery (C)	39,000	39,000	---	---
146	83.99EC	644 Broadway	42,800	42,800	---	---
161	DR80 191	Mirawa Center	36,000	36,000	30,650	30,650
166	DR80.15	750 Battery	105,400	105,400	12,800	12,800
166	CU81.7	222 Pacific at Front (C)	142,000	142,000	---	---
167	SFRA	Golden Gateway III	103,000	103,000	---	---
176	81.673EACV	Columbus/Pacific (Savoy)	49,000	49,000	22,000	22,000
208	81.104EDC	Washington/Montgomery (M)	235,000	233,300	4,000	-1,200
227	EE80.296	Bank of Canton	230,500	177,500	---	-800
239	DR80.1	456 Montgomery	160,550	160,550	24,250	24,250
240	81.705ED	580 California/Kearny	329,500	260,000	6,500	6,500
261	81.249ECQ	345 California (M)	640,000	466,500	15,500	15,500
262	81.206D	130 Battery	41,000	41,000	---	---
270	81.175ED	466 Bush	86,700	86,700	7,800	2,200
271	81.517	453 Grant	27,500	27,500	6,200	6,200
288	81.461EC	333 Bush (Campeau) (M)	498,400	458,100	20,900	20,900
288	DR80.24	101 Montgomery	264,000	234,000	4,900	-14,100
289	81.308D	One Sansome	603,000	603,000	7,000	7,000
311	82.120D	S. F. Federal	246,800	218,850	1,600	-9,440
351	DR79.24	Mardikian/1170 Market	40,000	40,000	---	---
641	82.200CV	1735 Franklin (C)	8,600	8,600	---	---
672	SFRA	Wealth Investments	104,500	104,500	---	---
743	SFRA	Van Ness/Turk (Vanguard)	85,000	85,000	---	---
767	STATE	State Office Building	293,300	293,300	---	---
816	82.212ED	300-350 Gough (M/C)	16,000	16,000	---	---
834	82.603E	25 Van Ness (C)	101,800	42,800	36.400	36,400
3512	82.14	Van Ness Plaza	170,000	170.000	6,000	6,000
3715	82.16EC	121 Steuart	33,200	33,200	---	---
3715		141 Steuart	80.000	80,000	---	---
3717	EE79.236	101 Mission	219,350	219,350	---	---
3717	EE80.349	Spear/Main (160 Spear)	279,000	279,000	7,600	7,600
3717	82.82D	135 Main	260.000	260,000	4,000	4,000
3722	81.417ED	144 Second at Minna	30,000	30,000	---	---
3741	82.203C	201 Spear	229,000	229,000	5,200	5,200
3787	81.306	252 Townsend at Lusk	61,000	61,000	---	---
	TOTAL PROJECTS UNDER CONSTRUCTION		**5,985,900**	**5,530,950**	**226,300**	**184,660**
	TOTAL (ALL PROJECTS)		**21,388,430**	**19,012,870**	**1,246,515**	**921,700**

(C) = Conversion (generally industrial and/or warehouse to office)
(M) = Mixed Use (office/residential/commercial)

Source: San Francisco Department of City Planning building names or addresses, based on information obtained from regular contact with Redevelopment Agency staff. Other jurisdictions are also contacted when the cumulative list is updated: the new 293,000-square-foot State Office Building under construction at Van Ness and McAllister is included; no Federal office space is proposed in downtown San Francisco in the near future other than that at the Rincon Annex Post Office site in the Rincon Point Redevelopment Area (John Scales, General Services Administration, telephone conversation, April 11, 1984).

Hotel projects have not been included in the list because hotel uses have different peak-travel characteristics from office buildings. They generally do not significantly affect peak-hour traffic or transit and therefore do not contribute to effects such as maximum production of air pollutants (see file No. EE81.61, 135 Main Final Supplemental EIR, certified November 30, 1982, page 150). Residential projects have not been included because the few residential structures in the study area are unrelated to office uses. Residential travel in the downtown usually takes place in the contra-commute direction during peak hours and thus does not contribute to cumulative traffic or transit congestion. In addition, office trips in the p.m. peak period are assumed to be made by workers traveling to their residences. Trip generation calculated for residential uses includes persons returning to their homes after work in the p.m. peak period. Inclusion in the cumulative analysis of residential uses in downtown San Francisco would double count project-generated travel: once when employees left their office building and again when they arrived at their residence (if they lived in the downtown area).

Approximately 1.3 million square feet of office space is proposed for locations outside the greater downtown area. All but two of these projects (San Francisco Executive Park just east of U.S. 101 near the southern border of San Francisco, proposed for about 1.1 million square feet, and St. Mary's Medical Office Building on Shrader at Fulton, proposed to be about 90,000 square feet) are under 10,000 square feet. These projects are not included on the cumulative list because their impacts do not accumulate measurably with office space in the downtown area. Although the Executive Park proposal would contribute to auto traffic on U.S. 101, the critical analysis points for p.m. peak-period cumulative downtown traffic on U.S. 101 are the freeway entrances near downtown, the approaches to the Bay Bridge, and the Alemany interchange, which restricts southbound U.S. 101 traffic in the p.m. peak period. The Executive Park traffic would not contribute measurably to peak demands on freeway entrances near downtown or to peak-period impacts in the peak direction on the Alemany interchange. It is factored in as part of the traffic approaching the Bay Bridge before cumulative downtown development is added. (Executive Park Subsequent DEIR (81.197E), September 9, 1983. Note that an EIR was prepared in 1976 for a project on this site; following permits for four of the proposed office buildings, the developer made major changes in the project that necessitated the new EIR now in process.)

The Department's master project log contains listings for projects that are no longer active for various reasons, such as no action by project sponsor in over one year, application withdrawn by sponsor, or project proposal revised to non-office or non-retail uses (examples of these projects include 272 Sutter, approximately 65,000 square feet, withdrawn by sponsor; 2nd and Harrison, 49,000 square feet, application revised from office space to parking lot). Some of these files have not been formally closed due to higher staff priorities; however, the projects are not included on the cumulative list when staff concludes that the office project has been abandoned, withdrawn or the scope or nature of the proposal is so uncertain as to not be reasonably foreseeable.

In EIRs prepared during the latter half of 1983, the list used for cumulative analyses included a section labeled "Completed But Not in Base Case." As of the end of 1983, that list totaled over 6 million square feet of office space and about 225,000 square feet of retail space. These projects were included on earlier lists even though they were built and fully or partially occupied because some of the baseline data (measurements of the existing situation) for some transportation systems was collected in about mid-1982 and thus could not include the effects of these projects. The baseline has recently been updated to reflect 1984 for use in the Downtown Plan Draft EIR. Projects completed before 1984 are included in the updated baseline data. Using 1984 as the existing baseline situation means that projects completed by the end of 1983 should be omitted from the list of projects used for cumulative analyses in order to avoid counting the projects twice. Because some of the baseline data previously used was collected more recently than mid-1982, list-based cumulative analyses overestimated some reported impacts by measuring the effects of office buildings as part of the baseline existing situation and by including the same office building in the calculations of future cumulative impacts. For example, PG&E is already serving office buildings completed in 1982 and 1983; including those buildings in calculations of future cumulative energy demand would count them twice.

Therefore, for some parts of the cumulative analyses, omitting projects completed in 1983 will provide more realistic predictions of future conditions.

The Department is aware of proposals by Southern Pacific Land Co. to develop property near China Basin. This area and the proposals by Southern Pacific have been called "Mission Bay." An application for environmental review was filed for the project over one year ago but was withdrawn in early 1984 and no new application has been filed. Since withdrawal of this application, members of the San Francisco Board of Supervisors have proposed that the City purchase all or portions of the property; this proposal was later dropped. In July 1984, Southern Pacific announced major revisions in its proposal reducing the scope of the development proposal. No new applications have been filed. Both the original project and the July 1984 proposal would require environmental analyses and Zoning Map and Comprehensive Plan amendments, and BCDC and possibly U.S. Army Corps of Engineers permits in addition to City approvals before any building could begin. With no application pending, and with the possibility of further revisions by the developer before submittal of any application, the Mission Bay project remains too speculative to include any cumulative analyses.

The Department of City Planning is preparing plans and environmental analyses for several areas in or near the downtown. Because these plans involve only proposals for zoning and other land use controls, they are not properly part of any cumulative list. Although analyses for these plans sometimes predict amounts of office space that could be built in the area being studied, the predictions are for purposes of assessing impacts of the plans and in no way reflect proposed future development.

Use of the Department's list for estimating cumulative impacts builds in certain limitations. It assumes, for example, that all proposals will be built at essentially the size proposed and that all buildings, once built, will be fully occupied. It is important to note that the cumulative list has not been adjusted to reflect temporary limitations on growth imposed by the City's actions to establish a Special Use District in the South of Market area and a moratorium on new office and hotel space over 50,000 gross square feet. Nor has any adjustment been made to account for reduced building potential as proposed in the Downtown Plan (base FAR of 14:1 reduced to 10:1). Thus, the total square footages on the list of projects under formal review may be overestimated, and impacts based on the square footages may also be overestimated if some buildings are not built, not fully occupied or reduced in size.

Existing office and retail space that would be replaced by new buildings was subtracted from the proposed new construction to better approximate the impacts the new buildings would have on transportation facilities. As shown in Table E-2, net new office and retail space is less than total new construction as a result of subtracting out existing office and retail space on sites proposed for new buildings. ("Net new" space is used to refer to the amount of new construction in excess of existing space on each site in terms of gross square feet of floor space. It does not refer to net leasable or net rentable floor space.)

Existing major office building construction in San Francisco is shown in Table E-3, page A-71.

TABLE E-2

GROSS SQUARE FEET OF CUMULATIVE OFFICE AND RETAIL DEVELOPMENT IN DOWNTOWN SAN FRANCISCO AS OF March 10, 1984

	Office (Gross Sq. Ft.)		Retail (Gross Sq. Ft.)	
Status of Project	Total New Construction	Net New Construction	Total New Construction	Net New Construction
Under Formal Review	9,744,260	8,721,295	643,265	442,590
Approved	5,658,275	4,760,625	376,950	294,450
Under Construction	5,985,900	5,530,950	226,300	184,660
Grand Totals	21,388,430	19,012,870	1,246,515	921,700

TABLE E-3

MAJOR OFFICE BULDING CONSTRUCTION IN SAN FRANCISCO
(In gross square feet)

Year	Total Gross Square Feet Completed	5-Year Total	5-Year Annual Average	Cumulative Total of Office Buildings[2]	Cumulative Total of All Downtown Office Buildings[3]
Pre-1960				28,145,000	24,175,000
1960	1,183,000				
1961	270,000				
1962	-				
1963	-				
1964	1,413,000				
1960-1964		2,866,000 (2,580,000)[3]	573,200 (516,000)[3]	30,725,000	26,754,000
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
1965-1969		8,379,000 (7,541,000)[3]	1,675,800 (1,508,000)[3]	38,266,000	34,295,000
1970	1,853,000				
1971	-				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
1970-1974		8,615,000 (7,753,000)[3]	1,723,000 (1,550,000)[1]	46,019,000	42,048,000

(continued)

TABLE E-3 (continued)

Year	Total Gross Square Feet Completed	5-Year Total	5-Year Annual Average	Cumulative Total of All Office Buildings[2]	Cumulative Total of All Downtown Office Buildings[3]
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	-				
1979	2,532,000				
1975-1979		8,157,000 (7,341,000)[1]	1,631,400 (1,468,000)[1]	53,360,000	49,389,000
1980	1,284,000				
1981	3,029,000				
1982	3,771,000				
1983	4,107,700				
1980-1983		12,191,700[4] 10,972,500[1]	3,047,900[4] 2,743,100[1]	64,332,500	62,100,000

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[1] Total net square feet (90% of gross). Net new space is added at an increase factor of 90%, since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building

[2] San Francisco Downtown Zoning Study, Working Paper No. 1, January 1966, Appendix Table 1, Part 1. For pre-1965, data include the area bounded by Vallejo, Franklin, Central Skyway, Bryant and the Embarcadero. Pre-1965 data also includes one-third of retail/office mixed use. For post-1964, data include the entire city.

[3] Gross floor space for downtown offices is included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the cited January 1966 report. For post-1964, the entire area east of Franklin Street is included.

[4] Four-year total and average.

Source: Department of City Planning, March 15, 1983

APPENDIX F

ARCHITECTURAL RESOURCES

The architectural ratings discussed in the text of this report (see Section III.B., Environmental Setting, pages 43 - 48 and Figure 16, page 47) represent the results of two separate architectural surveys.

SAN FRANCISCO DEPARTMENT OF CITY PLANNING

Between 1974 and 1976, the San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings. An advisory review committee of architects and architectural historians assisted in the final determination of ratings for the 10,000 buildings, the results of which were entered in an unpublished 60-volume record of the inventory. The rated buildings are also represented on a set of color-coded maps which identify the location and relative significance of each building surveyed. The inventory and maps are on file at the Department of City Planning.

The inventory assessed the architectural significance of the surveyed structures from the standpoint of overall design and particular design features. Both contemporary and older buildings were included, but historical associations were not considered. Each building was given two numerical ratings, for architectural quality and for overall architectural significance, urban design context and environmental significance. The latter rating is referred to in this report. The ratings ranged from a low of "0" to a high of "5". The architectural survey resulted in a listing of the best 10% of San Francisco's buildings. In the estimation of the inventory participants, buildings rated "3" or higher represent approximately the best 2% of the City's architecture. A full description of the survey rating system is available at the Department of City Planning, 450 McAllister Street.

HERITAGE SURVEY

The Foundation for San Francisco's Architectural Heritage, through its consultants, Charles Hall Page & Associates, Inc., conducted an architectural and historical survey of all downtown structures. In 1979, the original inventory results were published in the book Splendid Survivors (Foundation for San Francisco's Architectural Heritage, Splendid Survivors, California Living Books, San Francisco, 1979). A subsequent 1982 Heritage survey evaluted all structures in the C-3 zoning districts in areas not covered in the Splendid Survivors survey ("San Francisco Downtown Architectural Survey, C-3 Zoning District, Final Evaluated List," December 1, 1982). The expanded inventory has not been formally published by Heritage. Criteria considered in rating the buildings for both surveys include Architectural Significance, Historic Context and Negative Alterations. Summary ratings from "A" to "D" were assigned to each building on the basis of these scores. The summary ratings, as described on pages 12 and 13 of Splendid Survivors, are listed below:

A. "Highest Importance. Individually the most important buildings in downtown San Francisco, distinguished by outstanding qualities of architecture, historical values and relationship to the environment. All A-group buildings are eligible for the National Register, and of highest priority for City Landmark status."

B. "Major Importance. Buildings which are of individual importance by virtue of architectural, historical and environmental criteria. These buildings tend to stand out for their overall quality rather than for any particular outstanding characteristics. B-group buildings are eligible for the National Register, and of secondary priority for City Landmark status."

The Landmarks Preservation Advisory Board does not distinguish between "A" rated and "B" rated buildings for purposes of preservation.

C. "Contextual Importance. Buildings which are distinguished by their scale, materials, compositonal treatment, cornice and other features. They provide the setting for more important buildings and they add visual richness and character to the downtown area. Many C-group buildings may be eligible for the National Register as part of historic districts."

D. "Minor or No Importance. Buildings which are insignificant examples of architecture by virtue of original design, or more frequently, insensitive remodeling. This category includes vacant buildings and parking lots. Most D-group buildings are sites of opportunity."

Not Rated. Buildings which have been built or suffered insensitive exterior remodlings since 1945.

ARCHITECTURALLY AND/OR HISTORICALLY SIGNIFICANT BUILDINGS IN THE DOWNTOWN

The City Planning Commission adopted by Resolution No. 8600 (May 29, 1980), a "List of Architecturally and/or Historically Significant Buildings in The Downtown," based on the above described surveys. Generally, buildings rated "3" or higher in the DCP survey or "A" or "B" in the original Heritage survey (Splendid Survivors) were placed on the list. The expanded Heritage survey (1982) has not been adopted by the City Planning Commission to date.

The purpose of the list is to advise developers and buildings owners of the importance the City places upon the buildings' conservation and to require special review by the Commission of any plans which would affect any building or buildings on the list. Resolution No. 9240 (November 19, 1981) reaffirms the Commission's concern for preservation of architecturally significant buildings and acknowledges the Director's intent to recommend denial of projects that propose to demolish significant buildings. As noted in **Section III.B.**, no buildings on the project site are included on this list.

APPENDIX G
EMPLOYMENT

TABLE G-1

NET NEW SECONDARY EMPLOYMENT DISTRIBUTION IN THE BAY AREA AS A RESULT OF THE MULTIPLIER EFFECT

Sector	Employees
Office	8,904
Computer	0
Retail	84
Maintenance	201
Hotel	384
Restaurant	123
Total	9,696

Source: EIP, based on the Association of Bay Area Governments Study, 1980 Hybrid Impact - Output Model for the San Francisco Bay Region, April 1984, page XIV. The multipliers used in the analysis are Type II, which includes indirect and induced employment generation, and should be viewed as the theoretical maximum impact level. Actual employment generation would probably be somewhat less.

APPENDIX H

AIR QUALITY

SAN FRANCISCO AIR POLLUTANT SUMMARY 1979-1983[1]

Pollutant	Federal Standard[2]	State Standard[3]	1979	1980	1981	1982	1983
Carbon Monoxide (CO)							
1-hour average (ppm)	35	20					
Highest hourly average			20	10	8	--	--
No. of exceedances			0	0	0	0	0
8-hour average (ppm)	9	9					
Highest 8-hour average			13.8	7.5	5.3	9	5.1
No. of exceedances			1	0	0	1	0
Ozone (O_3)							
1-hour average (ppm)	.12[4]	.10					
Highest hourly average			0.08	0.09	0.07	.08	.13
No. of exceedances			0	0	0	0	1
Nitrogen Dioxide (NO_2)							
1-hour average (ppm)	None	.25					
Highest hourly average			0.16	0.17	0.11	.13	.13
No. of exceedances			4	0	0	0	0
Sulphur Dioxide (SO_2)							
24-hour average (ppm)	.14	.05					
Highest 24-hour average			0.034	0.018	0.016	.012	.018
No. of exceedances			0	0	0	0	0
Total Suspended Particulate (TSP)							
24-hour average (ug/m^3)	260	100					
Highest 24-hour average			117	173	103	106	117
No. of exceedances			1	6	1	3	4

SAN FRANCISCO AIR POLLUTANT SUMMARY 1979-1983[1]

Pollutant	Federal Standard[2]	State Standard[3]	1979	1980	1981	1982	1983
Annual Geometric Mean (ug/m^3)[5]	75	60					
Annual Geometric Mean			42.0	52.1	56.0	57.0	55.0
Annual Exceedances			No	No	No	No	No
Lead							
3-month Average (mg/m^3)	1.5	None					
Highest 3-month average			0.95	0.53	0.35	---	---
No. of exceedances			0	.0	0	---	---
1-month Average (mg/m^3)	None	1.5	—	—	—	--	—
No. of exceedances	---	—	---	—	—	—	—

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[1] 1979 data collected at 939 Ellis Street. 1980-83 data collected at 900 23rd Street.

[2] Federal standard is not to be exceeded more than once per year. Annual average standards are not be exceeded.

[3] State standards are not to be equalled or exceeded. The State 1-hour average CO standard was reduced from 40 ppm to 20 ppm in 1982.

[4] The federal standard is given in terms of Expected Annual Excesses which is based on a 3-year running average.

[5] The annual Geometric Mean is a single number which applies to an entire year of data. "No" indicates TSP concentrations did not exceed 60 (ug/m^3).

Note:
ppm = parts per million
ug/mg^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Source: BAAMQD, Air Pollution in the Bay Area by Station and Contaminant, March issues, 1980-1984; and California Air Resources Board, California Air Quality Data, Annual Summaries, 1979-1982.